

MEDICARE
PROSPECTIVE PAYMENT
AND THE AMERICAN
HEALTH CARE SYSTEM

REPORT
TO THE CONGRESS

FEBRUARY 1987

REPORTS

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PROSPECTIVE PAYMENT
ASSESSMENT COMMISSION

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TO THE CONGRESS

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Chairman

Donald A. Young, M.D.
Executive Director

February 26, 1987

The Honorable George Bush
President of the Senate
United States Senate
Washington, DC 20510

Dear Mr. President:

I am hereby transmitting to the Congress the report Medicare Prospective Payment and the American Health Care System. This report has been prepared by the Prospective Payment Assessment Commission as requested by the Committee on Appropriations of the House of Representatives (H. Rep. No. 911, 98th Cong., 2d Sess. 140 (1984)).

Sincerely,

A handwritten signature in dark ink, reading "Stuart H. Altman". The signature is fluid and cursive, with the first name "Stuart" being more prominent and the last name "Altman" following in a similar style.

Stuart H. Altman, Ph.D.
Chairman

Enclosure

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Stuart H. Altman, Ph.D.
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February 26, 1987

The Honorable Jim Wright
Speaker
U.S. House of Representatives
Washington, DC 20515

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Sincerely,

A handwritten signature in dark ink, reading "Stuart H. Altman". The signature is written in a cursive style with a small circular stamp or smudge to the left of the first few letters.

Stuart H. Altman, Ph.D.
Chairman

Enclosure

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Executive Summary

Executive Summary

In this report to the Congress, the Prospective Payment Assessment Commission (ProPAC) presents information on a wide range of changes in health care delivery and financing in the United States. Conclusions about cause and effect are drawn where the evidence will support them. In many instances, however, the information is presented descriptively because definitive conclusions are not possible.

This summary presents highlights from ProPAC's analysis of the effects of the prospective payment system (PPS), with emphasis on the distributive consequences of PPS for hospitals and overall financial effects on beneficiaries. ProPAC hopes that the report will serve as a reference document both for the range of issues that connect PPS with changes in health care delivery and financing, and for the statistics that comprise the evidence of these changes.

HEALTH EXPENDITURES

In 1984 and 1985, total health care expenditures for the nation continued to increase at a faster rate than general inflation. As a consequence, total health care spending increased from 10.3 percent of the gross national product in 1984 to 10.7 percent in 1985. The components of health care spending increased at different rates, however. In the case of Medicare spending, for example, increases in expenditures for ambulatory care have exceeded inpatient hospital and skilled nursing home spending increases for several years.

Controlling for inflation, the growth of Medicare hospital inpatient expenditures per enrollee has slowed since 1983, the year that PPS was initiated. Nevertheless, Medicare payments per hospital discharge (which include some payments that are part of PPS and some that are not) increased by nearly 12 percent from 1984 to 1985, still substantially above the rate of inflation. These data indicate that Medicare payments per discharge have kept pace

with increasing costs, at least in the early PPS period.

Substantial substitution of outpatient services for inpatient services, part of which may be attributed to the incentives of PPS, has taken place during the early 1980s. Data on non-hospital Medicare spending reveal that nursing home spending, as a proportion of total spending, has been constant in recent years. In contrast, home health services have continued to gain an increasing share of the Medicare dollar throughout the 1980s. This has occurred despite the application of increasingly stringent requirements for coverage by Medicare's fiscal intermediaries.

USE AND PROVISION OF HOSPITAL SERVICES AND HOSPITAL FINANCIAL CONDITION

The rate of decline in hospital admissions accelerated after the introduction of PPS, with the largest decline taking place in 1984 and 1985. During the first eight months of 1986, the decline continued but at a slower rate. A similar trend was evident for changes in hospital length of stay, except that the rate of decline began to slow in 1985.

In the case of Medicare patients, all of this decline was in routine days, as special care days actually increased slightly. Moreover, all of the decline was in nonsurgical cases; length of stay for surgical cases increased slightly in 1985. Patients continue to enter the hospital closer to the operation day, on average, but are staying longer post-operatively. This is consistent with the view that less complicated surgeries have been moved to outpatient settings.

Reductions in lengths of stay for both Medicare and non-Medicare patients ceased during the first eight months of 1986. It is hard to say whether this represents an end to the declining trend of several years. It is possible that the

movement of preadmission and post-discharge services and simpler cases out of the hospital has reached its limit. Further, physicians may have found it difficult or undesirable to continue to hold down length of stay.

Outpatient visits continue to increase dramatically. The substantial increase from 1984 to 1985 of 4.5 percent accelerated sharply to 8.1 percent during the first eight months of 1986.

Hospital total and inpatient expenses per admission grew faster in the first eight months of 1986 than in 1985. These growth rates are still lower than pre-PPS growth rates. Total hospital employment, as measured by full-time equivalent (FTE) employees, increased during the first eight months of 1986 while total inpatient FTEs decreased. This is further indication of the shift of services from the inpatient to the outpatient setting.

Hospital capital costs, which continue to be excluded from PPS, have been increasing at a much higher rate than operating costs. Recently, however, the rate of growth in capital costs has declined. Nevertheless, 1985 saw an enormous increase (over 200 percent) in the amount of tax-exempt hospital capital financings, which decreased abruptly in 1986. General tax reform and the uncertain future of tax-exempt financing were important influences on the latter trend.

Financial ratios, which give indications of the financial health of the hospital industry, show mixed results. Profitability improved in 1985, but data for the first eight months of 1986 show decreasing operating margins. A trend of reduced efficiency in the use of assets continued in 1985, while measures of debt repayment ability continued to show improvement. The ability to meet financial obligations in the near future improved, but the number of days hospitals must wait to receive payment increased. This latter trend may be exacerbated by the elimination of periodic interim payments by Medicare to some hospitals. Additional evidence on hospital profitability based on Medicare data is presented below.

SELECTED DISTRIBUTIONAL EFFECTS OF PPS ON HOSPITALS

ProPAC has been concerned about the distributional consequences of PPS for beneficiaries and hospitals. Distributional considerations have entered into many of the recommendations made by the Commission on hospital payments. The Commission's concerns derive from a belief that the distribution of payments should be equitable and that inequities may ultimately jeopardize beneficiary access to high-quality hospital services.

Understanding the distributional consequences of PPS on hospitals is a first step in determining the likelihood of equity or beneficiary access problems. ProPAC selected five topics from a wide range of potential distributional issues to feature in this report. The topics selected are ones that ProPAC has had under analysis to support the development of potential policy recommendations.

Changes in the Area Wage Adjustment—During the first two years of PPS, the area wage index was based on a national survey of hospital wages and employment conducted by the Bureau of Labor Statistics. A new area wage index was implemented on May 1, 1986, based on data collected directly from hospitals by the Health Care Financing Administration (HCFA).

Under PPS, the wage index is used to adjust hospital payments to reflect area wage differences, and it has a substantial effect on relative hospital payments. Institution of the new index changed the distribution of payments to some degree. The most substantial change was that it raised rural hospital payments relative to urban hospital payments. Nevertheless, rural hospital payments remain substantially below urban hospital payments.

Redistribution of PPS Payments During the Transition to National Rates—The change from cost-based reimbursement to prospective payment based on national averages also has a significant effect on the distribution of Medicare payments to hospitals. In general, payments shift away from areas that were initially high-

cost in the direction of areas that were initially low-cost.

The movement to national rates tends to benefit smaller hospitals and hospitals in the Pacific Census Division, and reduces relative payments to large hospitals and hospitals in the North Central region of the United States. There are other components to Medicare payments than PPS, and initially high-cost hospitals may be able to reduce costs more than others. Therefore, it is uncertain whether these findings indicate systematic financial hardship for the hospitals that are relatively disadvantaged by national rates.

Outlier Payments—Outlier payment policy has been a controversial component of PPS since its inception. Outlier payments help to defray the losses incurred by hospitals from the random occurrence of cases that are unusually expensive, but they do not cover the full costs of these cases, nor are they intended to.

Outlier cases are unevenly distributed among different hospital types. Urban hospitals tend to have more outlier cases and payments than rural hospitals, a fact that persuaded Congress to institute a more equitable system of determining urban and rural outlier contributions beginning in fiscal year 1987.

Outlier cases are also unevenly distributed geographically. For example, hospitals in the East North Central and South Atlantic Census Divisions have a relatively high frequency of outlier cases. The geographic distribution is also substantially influenced by the participation of New York in PPS.

The entry of New York state into PPS in 1986 may have changed the outlier payment distribution, because New York hospitals have relatively long lengths of stay. If PPS motivates New York hospitals to reduce length of stay for Medicare beneficiaries, however, the outlier payment distribution may eventually return to its pre-New York configuration. Preliminary evidence indicates that length of stay is beginning to fall in New York under PPS.

Hospital Case-Mix Change—The Medicare case-mix index (CMI) is a measure of the costliness of a hospital's Medicare patients compared to the national average. The index is based on the diagnosis-related groups (DRGs) in which patients are categorized and the weights assigned to each DRG. A hospital's case-mix index is the average weight of its mix of patients. PPS payments are highly dependent on hospitals' patient DRG distributions.

The average CMI has increased steadily since the implementation of PPS. The average CMI was 1.00 in fiscal year 1981, 1.06 in fiscal year 1984, and 1.09 in fiscal year 1985. Additional data reported by HCFA indicate continued increases since 1985. Because these increases have implications for aggregate payment, it has been necessary to partially offset them in the annual update of PPS payment rates. ProPAC's position on this adjustment is that CMI increases that represent real increases in patient care requirements ought to result in higher payments. By contrast, increases that result from changes in record keeping practices in hospitals ought not to be built in to future PPS payments.

The change in CMIs over time shows substantial variation across hospital types. Teaching hospitals and urban hospitals (which overlap considerably) experienced much greater than average CMI growth over the 1981-85 period than did non-teaching and rural hospitals. Hospital size is positively associated with CMI change for both urban and rural hospitals.

Distribution of Hospital Revenue Margins—Medicare Cost Report data pertaining to the first year of PPS were examined to assess variations in financial performance in the very early period of PPS. Hospital revenue margins (revenue minus costs divided by revenue) were computed for PPS revenues, all revenues, and all patient care revenues. The median margins for these three measures were 11.6 percent, 6.7 percent, and 2.5 percent, respectively. The total patient margin is lowest, in part, because it is the most influenced by the costs of uncompensated care.

While these figures portray a picture of good financial health, especially for Medicare busi-

ness, not all hospitals have been prospering during this period. In addition, it is uncertain whether hospital financial experience has maintained this level of performance since the first year of PPS. For example, even though average revenue margins continue to be positive, the American Hospital Association (AHA) reports that hospital profitability has been declining since the early PPS period.

The mean PPS revenue margin was 14.8 percent and the median margin, which is less affected by extreme values, was 11.6 percent in the first year of PPS. Ten percent of hospitals had PPS margins less than -5.0 percent and 10 percent had PPS margins greater than 23.4 percent. In part, this range reflects the movement to payments based on average rates. But since 75 percent of payments were hospital-specific during the first year of PPS, other factors, including hospital response to PPS, are likely to have been at work as well.

The most striking difference in the first-year PPS margins is between urban and rural hospitals. The urban average margin was a full 7 percentage points higher than the rural average margin. Over one-fourth of rural hospitals incurred losses under PPS while very few urban hospitals had losses. Changes in payment policy and the movement to national rates are likely to have reduced the disparity between urban and rural hospitals since the first year of PPS. Nevertheless, financial difficulties of rural hospitals deserve continued attention, especially small rural hospitals, which had the highest proportion of PPS losses of any hospital group.

Comparisons of PPS margins with total and all patient margins reveal some interesting patterns—the differences are not uniform across hospital groups. Major teaching hospitals present the most unusual pattern. These hospitals had the highest median PPS margin (18.8 percent), but the lowest median revenue margin for all patients (-4.3 percent), which probably reflects the costs of uncompensated care. The only other group with a negative median patient margin was small rural hospitals (-3.7 percent).

FINANCIAL EFFECTS OF PPS ON BENEFICIARIES

Much of the controversy over the level of PPS payments relates to what shares of savings generated by PPS should be kept by Medicare and by hospitals. ProPAC is also very concerned about the effects of PPS on amounts that Medicare beneficiaries are required to pay for hospital and other health care. The Commission believes that Medicare beneficiaries should, to some extent, share any savings that PPS is able to generate.

The Medicare benefit has always been limited in scope, and substantial cost-sharing requirements are imposed on beneficiaries who receive covered services. Total spending for the elderly averaged about \$4,200 per person in 1984, and Medicare paid for about 45 percent. Medicare paid for about 92 percent of inpatient hospital care for the elderly in 1984 and a substantially lower proportion of out-of-hospital and long-term care expenditures.

Estimating the effects of PPS on the change in beneficiary financial liabilities is complicated by the nature of the Medicare copayment structure, medical practice pattern changes, and isolating the effects of PPS from other forces. In general, increases in Medicare Part A copayment obligations as a share of Medicare expenditures have been largely offset by decreases in Part B cost sharing as a percent of Part B expenditures in recent years. Nevertheless, Medicare out-of-pocket costs per enrollee have increased 150 percent, from \$171 in 1978 to \$428 in 1984. The percentage increase in total Medicare expenditures was approximately the same during this period.

Shifts in services from inpatient hospital to outpatient settings and shortened hospital stays may have exacerbated the beneficiary liability trend since the beginning of PPS. Data on the overall effects of site-of-care shifts on beneficiary liability are not available. Based on case examples, however, it can be concluded that substituting outpatient surgery or medical treatment for inpatient care probably reduces beneficiary cost-sharing responsibilities. This is because the increase in coinsurance is usually

more than offset by avoiding payment of the inpatient hospital deductible.

Providing additional outpatient services after a shortened hospital stay, however, probably increases beneficiary liability. In addition, part of the recent rise in the inpatient deductible can be attributed to the decline in length of stay encouraged by PPS.

Many Medicare beneficiaries have private insurance coverage to supplement their Medicare benefits. In 1984, 64 to 75 percent of the noninstitutionalized elderly had supplemental private coverage, and an additional 8 to 13 percent were eligible for Medicaid. In the years since PPS began, there has been little if any increase in the cost of the private supplemental policies, despite the substantial increase in beneficiary liabilities during this period. Nevertheless, 20 percent (about 5 million) of the elderly still have no health insurance protection other than Medicare.

FINANCING AND DELIVERY OF HEALTH CARE SERVICES

Many public and private health financing organizations are using per-case hospital payment systems with DRGs or something like them defining the unit of payment. Two states have instituted DRG systems for all payers, and an additional 11 states now use such systems in their Medicaid programs. All states apply their own unique methods to determine what the level of payment should be.

Eleven Blue Cross/Blue Shield plans use DRG payments for at least some of their inpatient admissions. Because commercial insurers tend to have relatively low market shares, they have had less opportunity to negotiate DRG systems with individual hospitals. Nevertheless, a few commercial insurers have been successful in instituting DRG payments, and an even larger number use DRGs for analytic and marketing purposes.

In the private sector, growth rates of enrollments in both health maintenance organizations (HMOs) and preferred provider organizations (PPOs) continue to be impressive. HMO enrollment grew 26 percent to over 21 million people

from the end of 1984 to the end of 1985. (Enrollment of Medicare beneficiaries in HMOs has also experienced substantial growth.) Use of PPOs, a newer form of health care financing, has increased manyfold during the 1980s. Most PPOs were developed by insurance companies. Care under PPO arrangements was estimated to have been available to about 30 million people by the end of 1986.

The major change in the pattern of health care delivery during the 1980s has been the growth in frequency and scope of ambulatory services. PPS did not cause this change, but certainly has encouraged it. Many of these ambulatory care services are alternatives to inpatient hospital care, which is reflected in the recent declines in inpatient admissions and lengths of stay. Much of the growth in ambulatory care has been in freestanding facilities of varying types. Hospitals have been deeply involved in this trend, in the development of both hospital-based outpatient care and freestanding ambulatory facility care.

The early 1980s has been a period of substantial change in the delivery and financing of health services in the United States. PPS has been a catalyst for some of this change, but many recent developments originated in the private sector. In general, both public and private financing innovations have attempted to put providers at risk for the cost of unnecessary care and inefficiency. The encouragement of substitution of ambulatory care for inpatient hospital care is an important part of these cost-containment strategies.

ISSUES EMERGING FROM CHANGES IN THE HEALTH CARE SYSTEM

ProPAC has been concerned that not all of the potential effects of PPS on health care can be adequately investigated with available data. In fact, several issues will be difficult to examine empirically even after several more years of PPS have passed. The Commission believes that the effects of PPS should be viewed broadly in the context of the entire health system. Therefore, in the final chapter the Commission addresses a wide range of issues having profound

implications for the health of the entire population.

For example, the Commission's concern for the welfare of Medicare beneficiaries extends beyond the inpatient hospital setting. Changes in the patterns of medical practice, some of which are encouraged by the incentives of PPS, are focusing attention on the availability, quality, and financial impact of services delivered outside the hospital. The Commission believes that the time has come to carefully examine the structure of Medicare benefits for the full range of services required in the health care of Medicare beneficiaries.

Changes in health care financing, of which PPS is a part, are intensifying the need to address several broad health policy questions. Evidence has begun to emerge of difficulties in the continued financing of medical education, clinical research, and uncompensated care in U.S. hospitals. Similarly, new methods of financing and their associated incentives bring into question whether the population will continue to have widespread access to health care products that are constantly improving technologically. Future health policy debates must address these issues and the implicit trade-offs between quality, access, and cost in health spending.

Chapter 1
Health
Expenditures

Chapter 1

Health Expenditures

The Medicare prospective payment system (PPS) was intended to restrain growth in Medicare spending by introducing new financial incentives. Unlike the previous system of cost reimbursement, PPS puts hospitals at risk for inefficiency. Hospitals are encouraged to reduce the cost of providing inpatient care because they are allowed to keep the difference between their costs and the predetermined payment rates.

The Social Security Amendments of 1983 (Pub. L. 98-21), which enacted PPS, also established the Prospective Payment Assessment Commission (ProPAC). ProPAC advises the executive and legislative branches on maintaining and updating PPS. The House Appropriations Committee, recognizing that changing Medicare reimbursement could significantly affect hospitals and health care, also asked ProPAC to analyze the effects of Medicare's PPS on the nation's health care system.¹ The Commission's findings are reported annually.

Anticipated responses to the incentives of PPS are similar to the impact of other changes in the delivery of health care. Therefore, separating the impact of PPS on the health care system from the effects of these other changes is difficult. For example, the substitution of various types of services for inpatient care is expected under PPS. But technological advancements and changes in medical practice patterns have also encouraged the movement of services from the hospital to other settings. In addition, the use of health care resources has been influenced by other factors, such as changing life styles and health insurance benefit structures as well as the increasing number of physicians.

Health care financing and delivery reforms, concentrated in the private sector, also provide incentives similar to PPS. Health maintenance organizations (HMOs) use capitation to place providers at risk for the cost of unnecessary care and inefficiency. Preferred provider organizations (PPOs) offer discounts to enrollees willing to obtain health care services from selected providers. Cost-sharing provisions of traditional health insurance plans have been modified to encourage patients to become more cost-conscious.

Assessing the impact of PPS is further complicated by data limitations. The lack of data and methods to systematically assess health outcomes is especially troublesome. Nevertheless, enough time has passed since the beginning of PPS to begin to build a statistical profile of subsequent changes in health care delivery and financing. Much can be inferred about the early impact of PPS from these statistics.

This report presents an overview of recent trends in health care spending for the nation and for Medicare. Changes in the use and provision of hospital services, the effect of selected components of PPS on hospitals, the impact of PPS on beneficiaries, and major developments in the financing and delivery of health care are discussed. Finally, the report raises a variety of issues emerging for Medicare and for all payers because of changes in the health care system.

NATIONAL HEALTH EXPENDITURES

Total health care expenditures in 1985 reached \$425 billion, or \$1,721 per person. This was an increase of 8.9 percent over 1984 following an increase of 9.2 percent from 1983 to

1984.² Although the 1985 increase was the lowest in two decades, a large share of the slowdown can be primarily attributed to lower growth in overall prices. Nevertheless, medical prices outpaced prices of other goods and services. The medical care component of the consumer price index (CPI) increased 6.2 percent from 1984 to 1985 compared with a 3.5 percent increase in the total CPI.

Total health care spending in 1985 consumed twice the percentage of the gross national product (GNP) as 20 years ago. In 1985, total health spending was 10.7 percent of the gross national product, up from 10.3 percent in 1984. The increase in the percentage of GNP attributed to health care was due mainly to slower growth in the general economy compared with health spending. In 1985, the GNP increased 5.7 percent.

Personal health care expenditures for the direct provision of care account for 90 percent of total health spending. Between 1984 and 1985, these expenditures rose 8.9 percent, to \$375 billion—an average of \$1,504 per person. Like the growth rate for total health spending, growth in personal health expenditures is closely tied to inflation. The factors accounting for the 1985 increase were:

- General inflation: 40 percent;
- Medical care price inflation in excess of general inflation: 23 percent;
- Aging of the total population: 11 percent; and
- Changes in population demographics other than aging, consumption patterns per capita, technology, and service composition: 25 percent.

While health care expenditures have continued to increase, the source of these dollars has not changed significantly. In 1985, third-party payers, including Medicare, contributed 72 percent of personal health care dollars. The remaining 28 percent was financed through direct patient payments. Despite this relative constancy in the distribution of payment sources, patient out-of-pocket payments for the elderly, as a proportion of income, have increased recently, as discussed in Chapter 4.

Looking at sources of payment from another perspective, about 60 percent of personal health dollars in 1985 came from the private sector in the form of private health insurance and customer payments. The remaining 40 percent was financed through government programs, with Medicare providing almost half of that amount.

MEDICARE EXPENDITURES

Between 1978 and 1985, Medicare expenditures increased 30 percent faster than national personal health care expenditures. Total Medicare outlays were \$70.5 billion in 1985, up 12 percent from 1984.

Hospital Inpatient and Outpatient Expenditures

Hospital inpatient and outpatient expenditures were \$47.9 billion in 1985, or approximately 70 percent of total Medicare benefits, up 8.2 percent from 1984.³ The difference in the growth rates of inpatient and outpatient benefit payments, however, was dramatic. In 1985 Medicare inpatient hospital expenditures rose 6.8 percent, while outpatient hospital expenditures increased 25.0 percent.⁴

Increased Medicare outpatient expenditures in 1985 may indicate that providers have responded to the PPS incentive to substitute outpatient treatment for inpatient care. The impact of this shift on long-term cost-effectiveness and quality of care is not yet known, but the shift will play an important role in evaluating the effects of prospective payment. Substitution also has implications for beneficiary cost-sharing obligations. (This subject is covered in detail in Chapter 3.)

Medicare inpatient hospital expenditures per enrollee showed a real growth rate of 1.3 percent in 1985 compared with real growth in total Medicare expenditures of 6.5 percent (see Figure 1). (The term “real” refers to growth rates that have been adjusted for inflation.) The growth rate of inpatient hospital spending has substantially declined since 1983 when PPS was enacted. These figures suggest that PPS has contributed to limiting the growth in Medicare inpatient expenditures.

Medicare Expenditures by Various Providers

Within the Medicare program, PPS has encouraged a shift in the distribution of expenditures among covered services (see Table 1). In addition, growth rates for some services provided in non-hospital settings have increased (see Table 2). Some of this growth is related to the decline in inpatient average length of stay (LOS) and to a reduction in admission rates. Services previously provided during an inpatient stay have been moved to other settings.

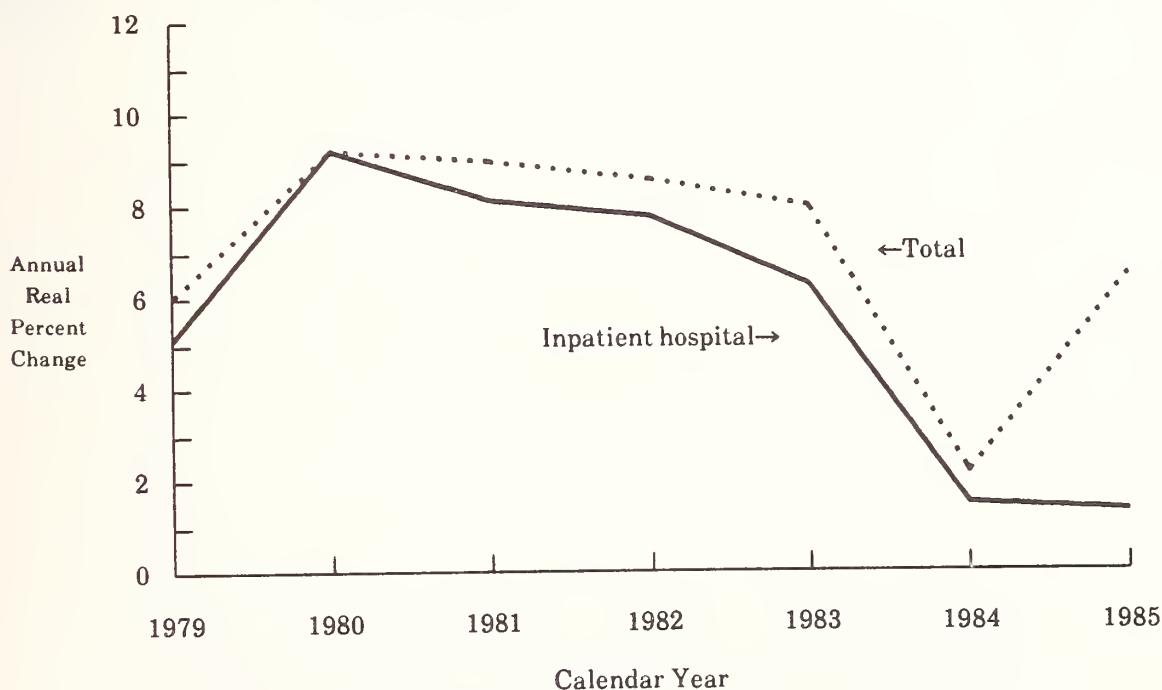
The percentage of Medicare outlays used to pay for inpatient services has been declining steadily for at least ten years, with large decreases occurring since 1983. Inpatient hospital payments have increased at a slower rate for the past six years, down from 21.8 percent in 1980 to 6.8 percent in 1985. Therefore, while PPS did not initiate the shift in Medicare expenditures from inpatient to non-hospital serv-

ices, its incentives for substitution support the continuation of this trend.

Home health care is one type of non-hospital service that may be substituting for inpatient services. Since 1982, the proportion of Medicare dollars spent on home health services has increased steadily. The average growth rate in expenditures for home health from 1983 to 1985 was somewhat larger than the growth rate before PPS implementation. In 1984 and 1985, approximately 1.5 million Medicare beneficiaries received home health visits, a slight increase over the 1.3 million served in 1983. On average, each beneficiary was visited 27 times in 1983 and 1984.

Without better information, it is difficult to determine whether patients who require home health services are actually receiving them. Despite the growth in home health expenditures since 1980, payments for this type of care may

Figure 1. Total Medicare and Inpatient Hospital Real Change in Expenditures per Enrollee*



* Payments are adjusted for the delay in periodic interim payments (PIP).

SOURCE: U.S. Department of Health and Human Services, Health Care Financing Administration, Office of the Actuary, Division of Medicare Cost Estimates, March 1986.

still be inadequate considering industry claims that patients are sicker and that intermediaries are using more stringent coverage requirements.

Given declining length of stay and admission rates, it was expected that post-discharge care in skilled nursing facilities (SNFs) would be substituted for part of an inpatient stay. However, available data are inconclusive. The average growth rate in SNF expenditures since 1983 is only slightly higher than it was before PPS implementation. In addition, the percentage of total Medicare payments made for skilled nursing care has not increased. A shortage of nursing home beds certified for Medicare reimbursement may be partially responsible for the lack of growth in SNF expenditures.

In 1983, there were 308,000 Medicare admissions to skilled nursing facilities. On average, 29.2 days of care were covered per admission. In 1984, Medicare admissions reached 332,000; on average, 26.6 days of care were covered per admission. More stringent requirements for Medicare coverage and the substitution of short stays in SNFs for part of an inpatient stay may explain this decline.

The information available on outpatient hospital and physician services is inconclusive. Although the proportion of Medicare dollars spent on these services has increased slightly since 1983, average growth rates have decreased compared with pre-PPS average growth rates.

Coordination of care between hospitals and providers of preadmission and post-discharge care is essential to ensure quality of care under PPS. Particular attention should be focused on areas of the country where post-discharge care may not be available. At this point, it is impossible to draw conclusions about these issues. Similarly, it is not yet possible to determine whether the use of alternate sites of care, such as outpatient surgery, has affected health outcomes or cost-effectiveness. Unfortunately, little data have been collected on the actual utilization and quality of non-inpatient services.

EXPENDITURES PER DISCHARGE

Because PPS is a discharge-based payment system, it is most appropriately analyzed by looking at expenditures per discharge. An important aspect of this analysis is the difference between the amount the hospital charges and

**Table 1. Estimated Medicare Benefits Payments by Type of Provider:
Percent of Total Payments, 1977-1985**

Year	Inpatient Hospital ^a	Outpatient Hospital ^b	Physician ^c	Skilled Nursing	Home Health ^d
1977	69.8	4.6	21.8	1.5	2.3
1978	68.5	5.1	22.8	1.4	2.3
1979	68.0	5.2	23.2	1.3	2.3
1980	68.1	5.4	23.1	1.1	2.3
1981	67.6	5.6	23.4	1.0	2.3
1982	67.1	6.0	23.5	0.9	2.5
1983	66.0	5.9	24.4	0.9	2.8
1984	65.6	5.6	24.8	0.9	3.2
1985	63.9	6.3	25.4	0.9	3.5

^a Payments are adjusted for the delay in periodic interim payments (PIP).

^b Low growth in 1984 is due partially to delays in changing the basis for payment of laboratory services from cost to fee schedule.

^c Physician payments include reimbursements of radiologists and pathologists.

^d Home health payments include Hospital Insurance Trust Fund and Supplementary Medical Insurance Trust Fund reimbursements.

SOURCE: U.S. Department of Health and Human Services, Health Care Financing Administration, Office of the Actuary, Division of Medicare Cost Estimates, March 1986.

the payment it receives per discharge. It is also valuable to compare the experience of other payers.

Data on post-PPS growth rates of Medicare and other payer charges and payments for community hospital care on a per-case basis are presented in Table 3. (Community hospitals are defined as all non-Federal, short-term general, and other special hospitals; there are about 5,690 community hospitals.) The average annual increase in Medicare program payments and beneficiary liabilities per discharge was 9.5 percent from 1983 to 1985. This growth in payments was larger than the average annual increase of 6.5 percent in Medicare charges per case for the same period.

A similar comparison of other payer payments to charges indicates the reverse. The average annual increase in other payer payments was slightly less than the growth in charges (9.0 percent compared with 9.9 percent).

The 11.8 percent increase in Medicare payments per case during 1985 substantially exceeds the 1985 update of 3.2 percent in the standardized payment amounts. It was not unexpected that total Medicare PPS payments per case would increase by more than the update factor. Payments reflect increases in the update factor plus changes in case mix. They also include capital cost pass-through payments and other factors that are not a part of the update of the standardized amounts.⁵ Nevertheless, the difference between the update amount and the increase in payments per case was larger than anticipated.

EFFECTS OF SLOWER INFLATION

Slower price inflation in 1985 translated into slower growth of national health expenditures. Expenditures for health care grew faster than the gross national product, pushing health spending to 10.7 percent of the nation's output.

Medicare inpatient hospital expenditures are increasing less rapidly than total Medicare out-

Table 2. Change in Estimated Medicare Benefit Payments by Type of Provider, 1978-1985 (In Percent)

Year	Inpatient Hospital ^a	Outpatient Hospital ^b	Physician ^c	Skilled Nursing	Home Health ^d
1978	12.4%	26.9%	19.5%	9.0%	14.3%
1979	16.7	19.9	19.8	4.6	19.5
1980	21.8	25.1	21.3	9.3	19.6
1981	20.7	27.5	23.2	9.2	24.6
1982	16.6	25.2	17.9	8.2	26.8
Average Increase 1978-1982	17.6	24.9	20.3	8.1	21.0
1983	12.2	11.6	18.2	8.4	29.7
1984	7.2	1.9	9.8	5.3	20.3
1985	6.8	25.0	12.1	12.0	20.9
Average Increase 1983-1985	8.7	12.8	13.4	8.6	23.6

^a Payments are adjusted for the delay in periodic interim payments (PIP).

^b Low growth in 1984 is due partially to delays in changing the basis for payment of laboratory services from cost to fee schedule.

^c Physician payments include reimbursements of radiologists and pathologists.

^d Home health payments include Hospital Insurance Trust Fund and Supplementary Medical Insurance Trust Fund reimbursements.

SOURCE: U.S. Department of Health and Human Services, Health Care Financing Administration, Office of the Actuary, Division of Medicare Cost Estimates, March 1986.

Table 3. Change in Medicare and Non-Medicare Inpatient Hospital Charges and Payments per Discharge

Payer	1983		1984		1985		Average Percent Change 1983-1985
	Dollars	Percent Change	Dollars	Percent Change	Dollars	Percent Change	
Medicare							
Charge per discharge	\$4,628	NA*	\$4,911	6.1%	\$5,251	6.9%	6.5%
Payment per discharge	3,484	*	3,734	7.2	4,175	11.8	9.5
Other payers (excluding Medicare and Medicaid)							
Charge per discharge	2,881	*	3,203	11.2	3,478	8.6	9.9
Payment per discharge	2,359	*	2,581	9.4	2,802	8.6	9.0

* NA = Not available.

SOURCE: American Hospital Association Annual Survey Data.

lays. In addition, the growth rate of inpatient dollars has gradually declined since 1983 when PPS began. On a per-case basis, Medicare pay-

ments grew faster than Medicare charges from 1983 to 1985.

Notes to Chapter 1

1. U.S. Congress, House of Representatives, Committee on Appropriations, *Committee Report Accompanying H.R. 6028* (Washington, DC: U.S. Government Printing Office, July 26, 1984).
2. All national health expenditures data for this chapter are from the following publication: Daniel R. Waldo, Katharine R. Levit, and Helen Lazenby. "National Health Expenditures, 1985." *Health Care Financing Review* 8 (1):1-21, Fall 1986.
3. Hospital inpatient expenditures were adjusted for delay in PIP.
4. U.S. Department of Health and Human Services, Health Care Financing Administration, Office of the Actuary, Division of Medicare Cost Estimates, March 1986.
5. For a more complete discussion of the update factor, see the Prospective Payment Assessment Commission's *1987 Adjustments to the Medicare Prospective Payment System—Report to the Congress* (Washington, DC: ProPAC, November 1986.)

Chapter 2

Use and Provision of Hospital Services and Hospital Financial Condition

Use and Provision of Hospital Services and Hospital Financial Condition

The use and provision of hospital services have changed in recent years. Hospitals have continued to experience declines in utilization of inpatient services as shown by admission and occupancy statistics. Outpatient services are substituting for at least some of these inpatient services. Apparently, hospitals are responding to a declining demand for inpatient care and other changes by adjusting the use of particular inputs to the hospital stay, including ancillary services and labor.

HOSPITAL UTILIZATION

Various indicators are used to measure hospital utilization. Besides admission and occupancy rates, length of stay and the use of outpatient services show trends that suggest changes in the way that hospital care is delivered in the United States.

Admission Rates

The use of hospital inpatient services, as measured by admission rates per 1,000 population, has been declining since 1981 (see Table 4). This trend accelerated through 1985, but slowed in 1986. For the population group age 65 and over, however, admission rates did not begin to decline until 1984. Nevertheless, as with admission rates for the total population, rates for those over 65 declined the most in 1985 and declined less in 1986. Utilization review conducted by Peer Review Organizations (PROs) has probably contributed to the decline in admissions for Medicare beneficiaries. Mandatory second opinions and preadmission approvals instituted by other payers have contributed to admission declines for other patients.

Table 4. Change in Hospital Admissions per 1,000 Population, 1976-1986 (In Percent)

Year	All Admissions	Over 65 Admissions
1976	2.4%	4.3%
1977	1.5	1.7
1978	-0.6	2.3
1979	1.5	2.6
1980	1.7	4.3
1981	-0.2	1.0
1982	-0.9	1.8
Average Increase 1976-1982	0.8	2.6
1983	-1.5	2.4
1984	-4.6	-4.4
1985	-5.7	-7.1
1986*	-3.0	-3.9
Average Increase 1983-1986	-3.7	-3.3

* Estimate based on January through August 1985 compared with January through August 1986.

SOURCES: American Hospital Association National Panel Survey. Population data from the U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States*, 1985.

Occupancy Rates

Lower admission rates have continued to contribute to reduced occupancy. Occupancy declined in 1986, although more slowly than during the preceding four years (see Table 5). The average occupancy rate for hospitals was less than 64 percent during the first eight months of 1986. Reduced occupancy has occurred despite the decreasing number of

hospital beds and recent slight increase in length of stay.

Hospitals seem to be responding to the decline in occupancy rates by reducing their bed complement, although hospital construction is taking place in some areas of the country. The number of community hospital beds declined by about 1 percent in 1986, the third consecutive year the number of beds has fallen.

Length of Stay

Both the American Hospital Association (AHA) and Medicare collect data on length of stay. The most recent data are from AHA's National Panel Survey, which reports 1986 figures for all adults and for people over 65. AHA panel survey data show that LOS increased slightly for the entire adult population while there was no change for those over 65 (see Table 6). This followed three years of large declines in LOS for both population groups. The rate of decrease accelerated in 1983, peaked in 1984, and approached pre-1983 levels during 1985. The leveling off of LOS could signal that preadmission and post-discharge services have been shifted to other sites as much as possible at this time. It could also mean that patients who remain in the inpatient setting are the sickest and that the easiest cases are being treated outside the hospital. This could lead to the slight increase in average LOS.

Outpatient Services

In contrast to the continued decrease in admissions, the number of hospital outpatient visits has grown substantially. During the first eight months of 1986, total admissions declined 2.5 percent compared with the first eight months of 1985. Over the same period, the rate of increase in outpatient visits almost doubled to 8.1 percent (see Table 7). This was the highest growth in outpatient visits in the last ten years.

The increasing importance of hospital outpatient services is reflected in the proportion of hospital revenues these services generate (see Table 8). Between 1976 and 1983, the proportion of revenues generated by outpatient services grew slowly, from 11 percent to 13 percent. In just the past three years (1984 to 1986), this

proportion has grown from 14 percent to 17 percent.

The specific types of services fueling the growth of hospital outpatient services are not known because detailed utilization data are not available. One source of increased outpatient visits is outpatient surgeries. AHA Annual Survey data show that outpatient surgery accounted for 34 percent of all surgeries during 1985 compared with 16 percent in 1980. Another source of outpatient visits is preadmission and post-discharge programs, an obvious reaction to the incentives of PPS. Hospitals also have increased their presence in the "urgent care" business, providing prompt attention to patients for nonlife-threatening medical needs.

Given the record growth in the number of hospital outpatient visits in 1986, similar growth in outpatient revenue might be expected. Growth in outpatient revenue in 1986 was slightly less than in 1985, however, as Table 9 shows. A decreased rate of growth in revenue per visit was responsible for the lower than expected growth rate for outpatient revenue. Preadmission tests and urgent care visits generate less revenue per visit than outpatient surgeries. Faster growth of these lower-priced services in 1986 may account for the smaller than expected increase in outpatient revenue.

MEDICARE INPATIENT UTILIZATION

Medicare inpatient utilization has begun to reflect the effects of PPS incentives and PRO review. Trends are evident through changes in case-mix indexes (CMIs), length of stay, and departmental charges.

Medicare Case-Mix Index

The Medicare case-mix index, which uses DRGs to measure the relative use of resources per admission, has continued to increase since the implementation of PPS. In 1981, the CMI was 1.05; it had increased by 7.8 percent, to 1.13, by 1984. By 1985, the CMI reached 1.18, an increase of 12.1 percent since 1981. The CMI increases because there are relatively more patients classified into higher-weighted DRGs and

Table 5. Change in Occupancy Rates and Numbers of Beds, 1976-1986 (In Percent)

Year	Occupancy Rates	Percent Change	Number of Beds	Percent Change
1976	74.6%	-0.1%	933,119	3.0%
1977	74.4	-0.3	945,208	1.3
1978	73.8	-0.8	954,001	0.9
1979	74.5	1.0	959,269	0.6
1980	75.9	1.9	970,456	1.2
1981	75.8	-0.1	986,917	1.7
1982	74.6	-1.6	997,720	1.1
Average Increase				
1976-1982	74.8	-0.01	963,813	1.4
1983	72.2	-3.2	1,003,658	0.6
1984	66.6	-7.8	992,616	-1.1
1985	63.6	-4.5	974,559	-1.8
1986*	—	-0.9	—	-1.0
Average Increase				
1983-1986	66.6	-4.1	983,797	-0.8

* Estimate based on January through August 1985 compared with January through August 1986.

SOURCE: American Hospital Association National Panel Survey.

Table 6. Change in Length of Stay, All Adults and Adults Over 65, 1976-1986

Year	All Adults Length of Stay	Percent Change	Adults Over 65 Length of Stay	Percent Change
1976	7.4	0.0%	11.0	-1.8%
1977	7.2	-2.7	10.7	-2.7
1978	7.2	0.0	10.6	-0.9
1979	7.1	-1.4	10.4	-1.9
1980	7.2	1.4	10.4	0.0
1981	7.2	0.0	10.4	0.0
1982	7.2	0.0	10.1	-2.9
Average				
1976-1982	7.2	-0.4	10.5	-1.5
1983	7.0	-2.8	9.7	-4.0
1984	6.7	-4.3	8.9	-8.2
1985	6.5	-3.0	8.8	-1.1
1986*	6.6	1.5	8.8	0.0
Average				
1983-1986	6.7	-2.3	9.1	-3.3

* Estimate based on January through August 1985 compared with January through August 1986.

SOURCE: American Hospital Association National Panel Survey.

Table 7. Change in Admissions and Outpatient Visits, 1976-1986 (In Percent)

Year	Admissions	Outpatient Visits
1976	3.4%	3.3%
1977	2.5	6.0
1978	0.4	0.4
1979	2.7	-0.3
1980	2.9	3.0
1981	0.9	1.4
1982	0.0	1.1
Average Increase 1976-1982	1.8	2.1
1983	-0.5	2.8
1984	-3.7	1.4
1985	-4.9	4.5
1986*	-2.5	8.1
Average Increase 1983-1986	-2.9	4.2

* Estimate based on January through August 1985 compared with January through August 1986.

SOURCE: American Hospital Association National Panel Survey.

Table 8. Proportion of Revenue Generated, by Source, 1976-1986 *

Year	Inpatient Revenue	Outpatient Revenue	Other Revenue
1976	.84	.11	.05
1977	.84	.12	.04
1978	.83	.12	.04
1979	.83	.12	.04
1980	.83	.13	.04
1981	.83	.13	.05
1982	.83	.13	.04
1983	.82	.13	.04
1984	.81	.14	.04
1985	.79	.16	.05
1986 ⁺	.78	.17	.05

* Rows do not equal 1.00 due to rounding.

⁺ Estimate based on January through August 1985 compared with January through August 1986.

SOURCE: American Hospital Association National Panel Survey.

relatively fewer patients in lower-weighted DRGs.

This change in the distribution of patients across DRGs has many causes. Patients in lower-weighted DRGs are more likely to be shifted to the outpatient setting, thus increasing the average DRG weight for inpatients. New technology may allow more aggressive and resource-intensive treatment of particular patients, putting them into higher-weighted DRGs. Finally, under PPS, hospitals have an incentive to improve their medical records coding practices to increase their case-mix indexes. Only the first two reasons reflect real changes in patient resource requirements.

Length of Stay Variables

Medicare's most recently available data on LOS is for 1985. These data show that overall LOS in 1985 was slightly shorter for Medicare patients (excluding outliers), who spent more special care days but fewer routine care days in the hospital (see Table 10). Length of stay for patients classified in medical DRGs was shorter than for those classified in surgical DRGs. For the latter group, LOS actually increased from 7.83 days for cases subject to PPS in 1984 to 7.99 days in 1985. Surgical patients entered the hospital closer to the time of their operation, but tended to stay longer afterwards. Shifting simpler operations to outpatient settings may partially explain the increase in surgical LOS.

Departmental Charges

Changes in length of stay are reflected in departmental charges, as shown in Table 11. In 1985, routine charges declined to 32.4 percent of total charges, while special care charges increased slightly, to 6.5 percent of total charges. Ancillary charges, as a percentage of total charges, increased to 61 percent.

Within ancillary departments, laboratory and operating room charges as a percentage of total ancillary charges decreased slightly. Drugs, inhalation therapy, and radiology increased slightly (see Table 12).

Table 9. Change in Hospital Revenues, 1976-1986 (In Percent)

Year	Total Revenue	Inpatient Revenue	Outpatient Revenue	Other Revenue	Inpatient Revenues per Admission	Outpatient Revenues per Visit
1976	20.1%	20.5%	24.0%	5.7%	16.6%	20.0%
1977	16.2	16.2	20.0	6.7	13.3	13.2
1978	12.8	12.0	16.5	17.3	11.5	16.0
1979	13.8	13.6	14.6	17.2	10.6	15.0
1980	17.7	17.8	19.3	13.0	14.5	15.8
1981	18.9	18.3	20.8	25.1	17.3	19.2
1982	16.3	16.2	18.1	13.2	16.2	16.8
Average Increase 1976-1982	16.5	16.4	19.0	14.0	14.3	16.6
1983	10.2	9.8	14.6	5.5	10.4	11.5
1984	6.0	4.6	14.0	8.2	8.6	12.4
1985	6.1	3.6	18.3	12.4	8.9	13.2
1986 *	7.8	5.7	17.6	10.0	8.4	8.8
Average Increase 1983-1986	7.5	5.9	16.1	9.0	9.1	11.5

* Estimate based on January through August 1985 compared with January through August 1986.

SOURCE: American Hospital Association National Panel Survey.

Table 10. Comparison of Average Length of Stay Variables^a

	1981 All Discharges	1984 Pre-PPS	1984 Post-PPS	1985
Routine care	7.70	6.97	6.44	6.24
Special care	0.54	0.53	0.52	0.63
Total ^b	8.24	7.55	6.98	6.87
Pre-operative ^c	2.30	2.35	2.07	1.83
Post-operative ^c	6.68	5.79	5.76	6.39

^a Cases classified as LOS and cost outliers have been excluded from this table. Outlier cases for 1981 were simulated using fiscal year 1984 LOS cutoffs. Fiscal year 1984 cost outlier thresholds were lowered to reflect the inflation in charges between 1981 and 1984.

^b Totals may not equal the sum of routine care plus special care due to rounding.

^c These values were calculated using discharges grouped into surgical DRGs.

SOURCE: ProPAC calculations based on MEDPAR (1981 and 1985) and PATBILL (1984) data.

Peer Review Organizations

The effects of Medicare patients' decreased utilization of inpatient hospital services and changing patterns of resource use on quality of care are uncertain. Peer Review Organizations, which have been reviewing Medicare quality

and utilization under PPS for more than two years, have recently begun a second two-year contracting cycle. Forty-four prime contractors are anticipated, employing approximately 2,425 full-time equivalent personnel. The first two years of PRO operations cost \$339 million; during this period, 45 percent of all Medicare

Table 11. Departmental Charges as a Percentage of Total Charges* +

	1981	1984 Pre-PPS	1984 Post-PPS	1985
Routine care	39.4%	35.7%	34.2%	32.4%
Special care	6.0	5.8	6.0	6.5
Total ancillary	54.3	57.8	59.5	61.0
Total	100	100	100	100

* Columns may not add to 100 percent due to rounding.

+ Cases classified as LOS and cost outliers have been excluded from this table. Outlier cases for 1981 were simulated using fiscal year 1984 LOS cutoffs. Fiscal year 1984 cost outlier thresholds were lowered to reflect the inflation in charges between 1981 and 1984.

SOURCE: ProPAC calculations based on MEDPAR (1981 and 1985) and PATBILL (1984) data.

Table 12. Itemized Ancillary Charges as a Percentage of Total Ancillary Charges* +

	1981	1984 Pre-PPS	1984 Post-PPS	1985
Anesthesia	2.3%	2.2%	2.1%	2.0%
Drugs	18.4	19.3	19.9	21.0
Inhalation	8.7	8.4	8.1	8.7
Laboratory	21.4	19.8	19.5	18.9
Medical supplies	12.5	13.8	14.3	14.2
Operating room	11.9	12.1	12.0	10.8
Radiology	10.3	9.1	9.1	9.5
Other	14.6	15.2	15.0	14.9
Total ancillary	100	100	100	100

* Columns may not add to 100 percent due to rounding.

+ Cases classified as LOS and cost outliers have been excluded from this table. Outlier cases for 1981 were simulated using fiscal year 1984 LOS cutoffs. Fiscal year 1984 cost outlier thresholds were lowered to reflect the inflation in charges between 1981 and 1984.

SOURCE: ProPAC calculations based on MEDPAR (1981 and 1985) and PATBILL (1984) data.

discharges were reviewed. For the second two-year contract cycle, \$357 million has been budgeted.

Just over 4 million cases were reviewed in fiscal year 1986. This included review of random cases, pacemaker cases, day and cost outliers, all readmissions within 15 days, transfers, and all cases of DRG 468. Intensified reviews and preadmission reviews were also conducted. Payment was denied for 2.5 percent of all these cases. Most denials were based on determination of lack of medical necessity for hospital-level care. PROs referred 110 cases to the Office of the Inspector General, U.S. Department of Health and Human Services (HHS), for possible

sanction of providers who substantially violated quality or utilization standards.

Approximately 288,500 cases were identified as readmissions within 15 days. These cases provide interesting information related to possible quality of care concerns. The PROs determined that in 4,600 of these cases, readmission was the result of premature discharge from an earlier inpatient stay. In these cases, payment was denied. These premature discharges accounted for 1.6 percent of all readmission cases and 0.1 percent of the total cases reviewed.

Payment was denied for 2,840 readmission cases when it was determined that services provided in the second admission could have been appropriately furnished during the first hospital stay. These cases constituted slightly less than 1 percent of all readmission cases and less than 0.1 percent of the total cases reviewed. It is impossible to tell whether these statistics reflect quality of care problems that have emerged since PPS because there are no comparable data for pre-PPS cases.

PROVISION OF HOSPITAL SERVICES

An examination of hospital expenses, changes in employment, and the growth rate of capital costs indicates how prospective payment has affected the way hospitals provide services.

Trends in Hospital Expenses

AHA Panel Survey data show that during the first eight months of 1986, hospital total and inpatient expenses increased more rapidly than during the same period in 1985. These rates of increase are still below pre-1983 levels (see Table 13). Per-capita increases in hospital expenses continue to be lower than pre-1983 increases, reflecting less use of inpatient hospital services. Inpatient expenses per admission grew more rapidly than total inpatient expenses because admissions declined.

Medicare Cost Reports from 1981 and the first year of PPS permit more detailed analysis of increases in operating costs per case. Average annual increases in operating costs per case for seven hospital departments, by hospital type, are shown in Table 14. Growth in total ancillary costs per case was greatest, while special care costs grew less rapidly, and routine costs increased the least. The increase in total ancillary costs per case was highest for rural referral centers and major teaching hospitals. The growth of special care costs per case was highest for other rural hospitals and lowest for rural referral centers and non-teaching hospitals. Increases in routine costs per case were lowest for major teaching hospitals, but did not vary much across other hospital types.

The cost of radiology services per case increased more than the costs of the other three ancillary services analyzed. The rate of growth for radiology services per case was almost 29 percent, compared with approximately 16 percent for laboratory, supplies, and drugs. Major teaching hospitals had the highest annual increases in cost per case for the laboratory, supplies, and drugs cost centers.

There are several explanations for the relatively large increases in ancillary costs versus routine costs. Slow growth in routine costs can be partially attributed to decreases in length of stay, because a large part of these costs is associated with daily nursing care. The increases in drug costs per case are not surprising because inflation in drug prices has been a major contributor to increases in the medical consumer price index over the past few years.

Limitations in cost reporting also contribute to the large increases in ancillary costs per case. Medicare routine and per-case cost limits in effect between 1981 and the first year of PPS gave hospitals an incentive to shift costs from routine cost centers to ancillary cost centers, such as drugs and supplies. In addition, a portion of the costs in some of the ancillary centers is incurred for services provided to outpatients. These outpatient costs cannot, however, be separated from inpatient costs recorded on the Medicare Cost Reports. Thus ancillary costs per discharge are overstated because they include the cost of some outpatient services. This may significantly distort the results for departments with large outpatient volumes, such as radiology.

Changes in Hospital Employment

The numbers and types of employees working in the hospital industry continue to change. Total hospital full-time equivalents (FTEs) increased slightly in 1986 after declining in 1984 and 1985. In contrast, the total number of inpatient FTEs continued to decline. In the two previous years, inpatient FTEs declined faster than total FTEs. On a per-admission basis, however, the number of inpatient FTEs increased slightly over the same three-year period (see Table 15). The growth in inpatient FTEs per admission

Table 13. Change in Hospital Expenses, 1976-1986 (In Percent)

Year	Total Expenses	Total Expenses per Capita	Inpatient Expenses	Inpatient Expenses per Capita	Inpatient Expenses per Admission
1976	19.1%	17.9%	18.7%	17.5%	14.8%
1977	15.6	14.5	15.2	14.0	12.3
1978	12.8	11.6	12.3	11.1	11.8
1979	13.4	12.2	13.3	12.0	10.4
1980	17.0	15.6	16.8	15.4	13.5
1981	18.7	17.5	18.4	17.2	17.4
1982	15.8	14.7	15.6	14.4	15.5
Average Increase 1976-1982	16.1	14.9	15.8	14.5	13.7
1983	10.2	9.2	9.6	8.5	10.2
1984	4.8	3.9	3.5	2.6	7.5
1985	6.4	5.4	4.1	3.2	9.5
1986*	9.1	8.2	7.1	6.2	9.8
Average Increase 1983-1986	7.6	6.7	6.1	5.1	9.3

* Estimate based on January through August 1985 compared with January through August 1986.

SOURCES: American Hospital Association National Panel Survey. Population data from the U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States, 1985*.

Table 14. Average Annual Increase in Cost per Case, 1981 to First Year of PPS (In Percent)

Department	All Hospitals	Hospital Types					
		Urban	Rural Referral Centers	Other Rural	Major Teaching	Minor Teaching	Non-Teaching
Routine care	4.5%	4.5%	4.9%	4.4%	3.4%	4.4%	4.9%
Special care	11.9	11.8	11.2	13.2	12.6	12.4	11.2
Total ancillary	17.5	17.6	18.7	16.6	18.6	17.2	17.4
Selected ancillaries							
Radiology	28.7	28.2	32.5	31.6	30.1	26.6	29.7
Laboratory	16.4	16.3	17.8	16.2	20.2	15.7	15.6
Supplies	15.9	16.2	17.9	13.6	19.8	15.6	15.4
Drugs	15.0	15.2	14.9	13.9	19.9	14.1	14.4

SOURCE: ProPAC analysis of 1981 and first-year PPS Medicare Cost Reports.

may be attributable to an increase in the complexity or severity of the average case, thus requiring more personnel to provide care. It may also be the result of a lag in adjusting employment to decreasing admissions.

While employment in hospitals rose only slightly in 1986, employment in the health services industry continued to increase steadily (see Table 16). Nevertheless, the proportion of health services employees working in the hospital sector continues to decline, as it has over the past decade. This decline reflects the shift of

health care services out of the hospital setting to other providers.

Apparently, hospitals are using a greater proportion of part-time employees to decrease costs and to establish flexible staffing. This trend is evident before and after the beginning of PPS. In 1984 and 1985, the number of full-time employees decreased faster than the number of part-time employees; in 1986, part-time personnel grew more rapidly than full-time personnel (see Table 17).

Hospitals have also changed the skill mix of personnel over time. AHA Annual Survey data were used to examine seven categories of medical personnel (nursing, pharmacy, laboratory, food service, radiology, physical therapy, and occupational therapy). For the nursing category, three skill levels were analyzed. In 1980, RNs comprised 49.3 percent of nursing personnel; LPNs represented 18.1 percent; and other nursing personnel, 32.6 percent. By 1984, RNs made up 60.4 percent of the hospital nursing work force, and in 1985 this figure increased to 62.9 percent. The percentage of LPNs and other nursing personnel employed in hospitals both decreased in 1984 and 1985.

For the other categories of personnel, two skill levels were available for analysis. Except for pharmacy, these categories showed shifts to higher skilled employees, although none were as large as in the nursing category.

Growth in Capital Costs

The growth rate of capital costs has declined recently, while the growth rate of total hospital costs has increased (see Figure 2). The decline in capital cost growth may reflect reduced demand for inpatient hospital care and excess capacity. Even so, capital costs continue to increase faster than total costs. Between 1975 and 1986, the annual percent increase in capital costs was greater than the increase in total costs (except for 1980).

In general, capital costs increase more rapidly than total costs for several reasons. When old plant and equipment are replaced, the current, higher costs of replacing the capital are substituted for the historical costs of the older capital.

Hospitals may also be substituting capital for operating costs, especially labor. Because capital costs continue to be excluded from PPS, the system fails to provide incentives for hospitals to minimize overall investment costs. Substitution continues even though it may not provide the optimal combination of cost components.

Recent trends in capital and total cost growth have affected hospital capital/total cost and capital/operating cost ratios (see Table 18). During 1984, the rate of growth in capital costs increased, while the rate of growth for total costs declined. As the rate of growth in capital and total costs converge, a trend that began in 1985, the growth of ratio values slows significantly. In 1986, the capital/total cost ratio increased a modest 1.2 percent, from 8.3 to 8.4, while the capital/operating cost ratio increased 1.1 percent, from 9.1 to 9.2. This is a significant reduction from the 14.5 percent increase in the capital/total cost ratio in 1984.

Historically, tax-exempt bonds have represented approximately 80 to 85 percent of total hospital debt. Recent trends in health care tax-exempt financings (TEFs), therefore, may be a predictor of future capital spending growth.¹

In 1985, TEF volume increased almost 300 percent from 1984, totaling \$32.4 billion (see Figure 3). Of this, 60.5 percent was for general acute care hospitals, 18.4 percent for hospital equipment, and 17.6 percent for other issues, such as children's and other hospitals, and nursing homes. Refunding issues accounted for more than 37.8 percent of the total volume in 1985. Hospitals refund prior issues to lower interest costs. More than 70 percent (\$22 billion) of the 1985 bonds were issued between October 15 and December 31, 1985. Analysts are unsure about the causes of this surge, but suggest uncertainty regarding tax reform changes and lower interest rates as possibilities.

Research on the timing of hospital capital financing and ultimate construction indicate that it takes from one to three years to complete a major capital project once financing has been obtained.² This means that the surge in TEFs will probably appear as increased capital ex-

Table 15. Change in Hospital Employment, 1976-1986 (In Percent)

Year	Total Hospital Full-Time Equivalents	Inpatient Full-Time Equivalents	Inpatient Full-Time Equivalents per Admission
1976	6.1%	5.8%	2.3%
1977	5.1	4.6	2.1
1978	3.7	3.2	2.8
1979	3.5	3.3	0.7
1980	4.7	4.5	1.6
1981	5.4	5.1	4.3
1982	3.7	3.4	3.4
Average Increase 1976-1982	4.6	4.3	2.5
1983	1.4	0.8	1.4
1984	-2.3	-3.5	0.2
1985	-2.3	-4.3	0.6
1986*	0.4	-1.5	1.1
Average Increase 1983-1986	-0.7	-2.1	0.8

* Estimate based on January through August 1985 compared with January through August 1986.

SOURCE: American Hospital Association National Panel Survey.

Table 16. Change in Health Services Employment and Hospital Employment, 1976-1986 (In Percent)

Year	Health Services Employees	Hospital Employees	Hospital Employees: Proportion of Health Services Employees
1976	5.2%	3.9%	.54
1977	5.4	4.3	.54
1978	4.5	3.0	.53
1979	4.2	2.8	.52
1980	5.7	5.4	.52
1981	5.4	5.6	.52
1982	4.5	3.8	.52
Average Increase 1976-1982	5.0	4.1	—
1983	3.0	0.7	.51
1984	2.2	-1.1	.49
1985	3.1	-0.2	.48
1986*	4.3	1.2	.46
Average Increase 1983-1986	3.2	0.2	—

* Estimate based on January to September.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

**Table 17. Changes in Full-time and Part-time Hospital Personnel, 1976-1986
(In Percent)**

Year	Total Personnel	Full-Time Personnel	Part-Time Personnel
1976	6.2%	6.1%	6.3%
1977	5.1	5.0	5.3
1978	4.1	3.3	6.8
1979	3.9	3.0	6.7
1980	5.2	4.0	9.1
1981	6.0	4.8	9.4
1982	3.7	3.6	4.1
Average Increase 1976-1982	4.9	4.3	6.8
1983	1.5	1.2	2.3
1984	-2.1	-2.6	-0.8
1985	-1.8	-2.7	-0.1
1986*	0.4	0.3	0.7
Average Increase 1983-1986	-0.5	-1.0	0.5

* Estimate based on January through August 1985 compared with January through August 1986.

SOURCE: American Hospital Association National Panel Survey.

penditures some time between 1986 and 1989 or after.

TEF activity appeared to be lower again in 1986. TEFs totaled \$5.9 billion through November 1, with 59 percent for general acute care hospitals, 22 percent for hospital equipment, and 18 percent for other issues. Refunding issues accounted for almost 46 percent of the 1986 volume. This appears to be lower than in 1983, when TEFs totaled \$10.4 billion, or in 1984, when TEFs totaled \$10.6 billion.³

Figure 3 also illustrates the declining proportion of the TEFs issued for general acute care hospitals and the increasing proportion for hospital equipment.

HOSPITAL FINANCIAL CONDITION

Changes in the financial condition of hospitals can be measured by ratios reflecting profitability, liquidity, asset utilization, and debt financing, as well as hospital closures. While these data are useful in assessing trends and the overall condition of the hospital industry, they may

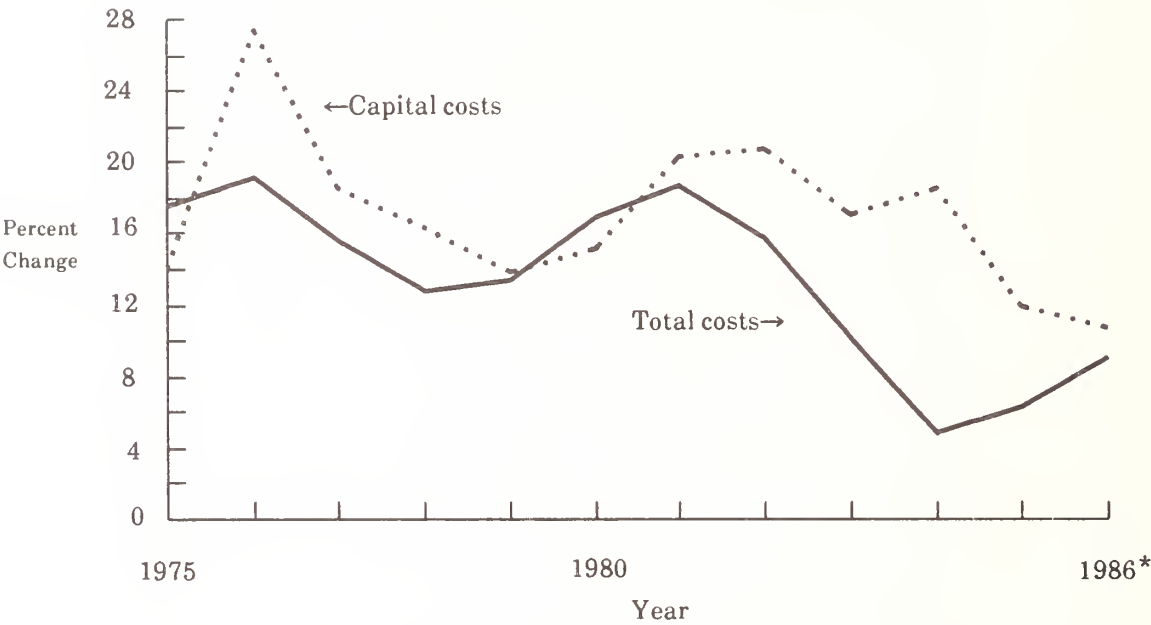
mask conditions of individual hospitals. Most hospital financial indicators have improved since the implementation of PPS, as Table 19 shows.⁴ These changes cannot, however, be directly or primarily attributed to PPS.

Profitability

According to Financial Analysis Survey (FAS) data provided by the Healthcare Financial Management Association (HFMA), hospital profitability, as measured by operating margins, continued to increase in 1985.^{5, 6} The median operating margin ratio in 1985 was 3.9 percent, compared with 3.1 percent in 1984 and 2.3 percent in 1983. This favorable trend in profitability has a pervasive effect on the other financial indicators in the hospital industry.

Operating margins vary considerably among hospitals. In 1985, 25 percent of the hospitals in the FAS had operating margins at or below 1.0 percent; 25 percent had operating margins above 7.3 percent.

Figure 2. Percent Increase in Hospital Capital and Total Costs from Prior Year



* Estimate based on January through August 1985 compared with January through August 1986.

SOURCE: American Hospital Association Panel Survey data.

Table 18. Hospital Capital/Total Cost and Capital/Operating Cost Ratios, 1980-1986 (Annual Percent Change)

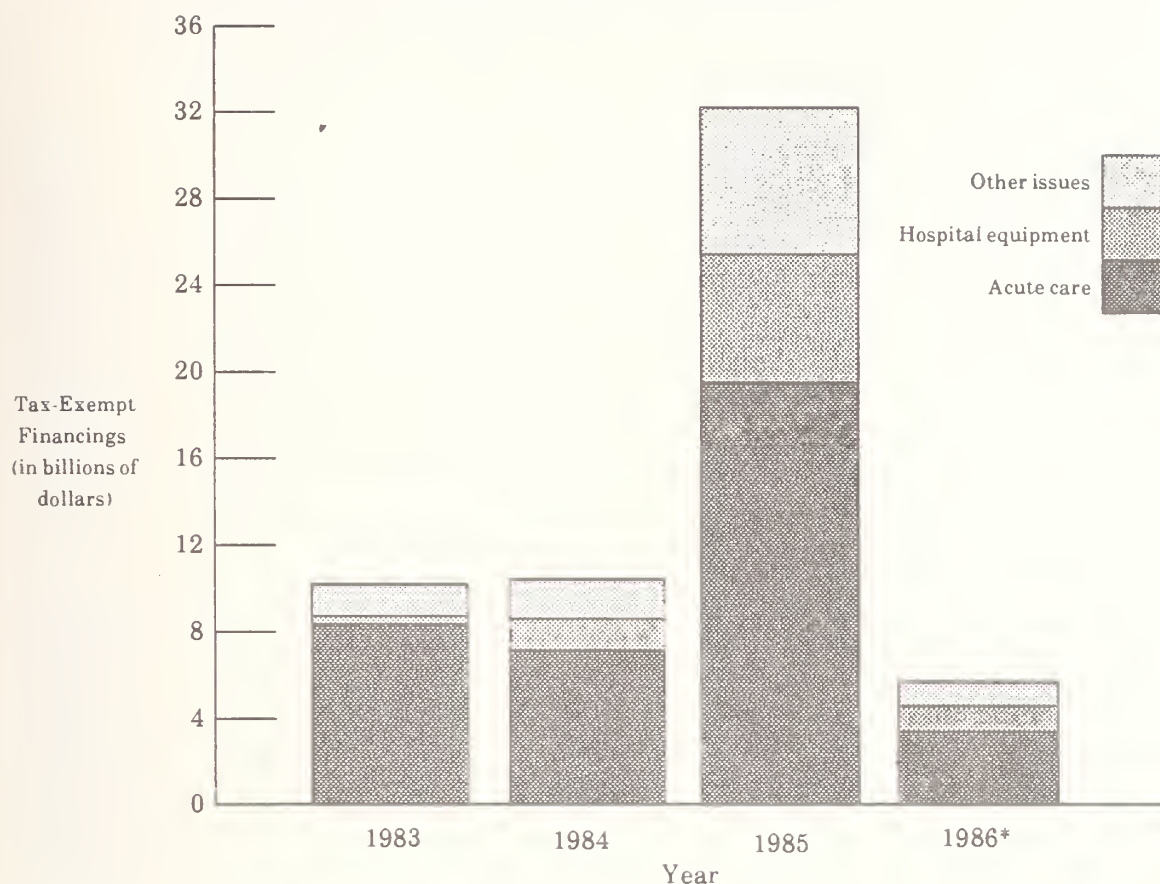
Year	Capital/Total Cost*	Capital/Operating Cost*
1980	6.2 (-1.6%)	6.6 (-1.5%)
1981	6.3 (+1.6)	6.7 (+1.5)
1982	6.5 (+3.2)	7.0 (+4.5)
1983	6.9 (+6.2)	7.4 (+5.7)
1984	7.9 (+14.5)	8.6 (+16.2)
1985	8.3 (+5.1)	9.1 (+5.8)
1986 ⁺	8.4 (+1.2)	9.2 (+1.1)

* Figures vary slightly from those presented in a similar table in ProPAC's *Medicare Prospective Payment and the American Health Care System, Report to the Congress, February, 1986.*

⁺ Estimate based on January through August 1985 compared with January through August 1986.

SOURCE: American Hospital Association National Panel Survey.

Figure 3. Tax-Exempt Health Care Financings



* January through November 1, 1986.

SOURCE: Securities Data Company's Municipal Data System.

Table 19. Selected Hospital Financial Indicators, 1981-1985

Ratio Median Values*	Actual Value					Annual Percentage Change			
	1981	1982	1983	1984	1985	1982	1983	1984	1985
Operating margin	.019	.020	.023	.031	.039	5.3%	15.0%	34.8%	25.8%
Current	1.858	1.816	1.817	1.879	1.963	-2.3	-0-	3.4	4.5
Total asset turnover	1.010	1.006	.981	.947	.910	-0.4	-2.5	-3.5	-3.9
Cash flow to total debt	.189	.173	.172	.196	.220	-8.5	-0.6	14.0	12.2

* Values may differ from those reported in previous ProPAC reports. As hospitals are added to the reporting sample and data are updated throughout the year, median ratios for prior years are recalculated.

SOURCE: Healthcare Financial Management Association, *Hospital Industry Analysis Report, 1981-1985*.

The FAS data also indicate that larger hospitals have higher operating margins than smaller hospitals. The median operating margin for hospitals with more than 400 beds was 5.7 percent, whereas the median for hospitals with

fewer than 100 beds was 1.7 percent. Similarly, urban hospitals have higher operating margins than rural hospitals (4.4 percent for urban versus 2.8 percent for rural).

Most hospitals have been able to retain the difference between Medicare payments and costs for only the past two years; higher operating margins may reflect this relatively new opportunity. Hospitals may experience lower operating margins in future years. In fact, more recent AHA Panel Survey data on hospital operating margins indicate that profitability is declining. The average hospital total margin for the first eight months of 1986 was 5.5 percent.⁷ This is a 17 percent decrease from the same period during 1985, when the average total margin was 6.7 percent.

Liquidity

According to FAS data, indicators for liquidity continued to show some improvement. Liquidity is an indication of the ability of the hospital to meet financial obligations that will become due in the near future. The median current ratio for 1985 was 1.963, a 4.5 percent increase over the 1984 level.⁸ This observed improvement in current ratio values is due largely to the improved operating margins in 1985. The lower quartile for the current ratio was 1.502, and the upper quartile was 2.554 in 1985.

FAS data indicate that since 1982 there has been a continued increase in the days in patient accounts receivable ratio.⁹ This ratio, a measure of the average time that receivables are outstanding, increased 2.5 days (3.9 percent) in 1985 to a median value of 67.3 days. The lower quartile was 56.0 days and the upper quartile was 79.2 days.

This increase in receivables days may be due to delays in payments from some payers and the implementation of UB-82 billing forms. As hospitals wait longer to receive payments, their amount of working capital reserves will be reduced. Increased days in accounts receivable could affect providers' ability to meet cash requirements for operations or could reduce the amount available for longer-term investments. This is exacerbated for many hospitals by Medicare's elimination of periodic interim payments (PIPs).

Increases in accounts receivable may also contribute to increases in the current ratio. While hospitals strive to maintain constant cash levels

to provide for operations, increased receivables will result in increased current assets. Increased current assets contribute to growth in the current ratio.

Asset Utilization

The trend of reduced efficiency of hospital capital investment continued in 1985. The asset turnover ratio measures the relationship between hospitals' revenue and assets and the efficiency with which hospitals use their capital assets. According to FAS data, the median total asset turnover ratio value declined to .910 in 1985, compared with .947 in 1984.¹⁰ Further, in 1985 one-quarter of the hospitals had asset turnover ratios of .739 or less; however, one-quarter had ratios greater than 1.145.

The continued decline in the asset turnover ratio was largely due to reduced utilization of facilities. In addition, hospitals are increasing their emphasis on outpatient services that generate less revenue. They are unable to reduce their investment in assets quickly due to their fixed nature. This trend may continue to encourage hospital managers to find new ways to generate revenues from unused capacity.

Debt Financing

As in 1984, measures of debt repayment ability continued to show improvement in 1985. According to FAS data, the cash flow to total debt ratio median value increased 12.2 percent to .220 in 1985, compared with 1984 values.¹¹ This increase is attributable to improved hospital operating margins, decreases in interest rates, and stabilized percentages of debt financing.

Other debt financing ratios calculated by FAS indicate that hospitals are increasingly relying on equity instead of debt as a source of financing. The median equity financing ratio was 50.2 percent in 1985, up from 49.3 percent in 1984.¹² This indicates that hospitals that increased their assets in 1985 used more equity than debt. Before 1984 there had been a consistent decline in the equity financing ratio.

Financial Ratios of Hospitals and Manufacturing Firms

It is useful to compare some of the financial ratios for the hospital industry with the values for another mature sector of the economy. Median hospital values and values for the average manufacturing firm are presented here, but other comparisons would be possible. The ratios for manufacturing firms do not represent standards for the hospital industry, and comparisons do not point to any clear-cut conclusions about the relative financial health of either sector.

Operating margins in the hospital and manufacturing industries were about equal in 1985. This was because of the recent steady increase in hospital operating margins and declines in manufacturing. The current ratio is lower for the manufacturing industry (about 1.5 percent) than for the hospital industry (1.96 percent). This reflects recent declines for manufacturing and recent increases for hospitals. The total asset turnover ratio for the average manufacturing firm is higher than for the median hospital (1.21 compared with 0.91). Days in receivables is much shorter for manufacturing firms (about 45 days compared with 67.3 days in patient accounts receivable). The cash flow to total debt ratio is not as strong in the manufacturing industry (0.17 compared with 0.22 in the hospital industry). Finally, the equity financing ratio is slightly lower for the manufacturing industry (46 percent compared with 50.2 percent).

Hospital Closures

In 1985, 49 community hospitals closed, compared with an annual average of 33 closures between 1980 and 1984.¹³ Approximately 80 percent of the closures were hospitals with fewer than 100 beds, and 98 percent had fewer than 300 beds. Of the closed hospitals, 60 percent were located in metropolitan areas.¹⁴

Not-for-profit and state and local government hospitals were affected similarly, while a greater percentage of investor-owned hospitals closed. Nine of the 1,597 hospitals owned by state and local governments closed, and 20 of the 3,262 not-for-profit hospitals closed. Closures of investor-owned hospitals totaled 20 of 774.

The American Hospital Association examined the median total operating margins of hospitals closed between 1980 and 1985.¹⁵ During the five years before these hospitals closed, operating margins fluctuated between negative 8 percent and positive 3 percent. Average total margins for all hospitals during the period 1975-85 can be used for comparison. AHA panel survey data show that average total margins at community hospitals ranged from a low of 2.3 percent in 1975 to a high of 6.2 percent in 1984.

The number of hospital closures has increased modestly since the introduction of PPS, but it appears that the closed hospitals were in financial trouble several years before PPS implementation. How these closures affect access to health care is difficult to determine. The impact of a hospital closure in an isolated rural area is much greater than in an urban area with more hospitals and a larger number of alternative sites of care.

HOSPITAL MANAGEMENT STRATEGIES

Hospitals are adopting new management strategies in response to changing financial incentives and increased competition from other providers. Because of the fixed pricing mechanisms under PPS, hospitals are at increased financial risk in caring for Medicare beneficiaries. The combination of an oversupply of hospital beds and increasing cost-consciousness of many purchasers is stimulating hospitals to adopt new management strategies.

In a recent survey, hospital chief executive officers identified DRGs and changing payers as the two most significant issues they face.¹⁶ Competition from hospital and non-hospital providers also ranked as major concerns. In response to these financial and competitive pressures, hospitals are adopting management strategies to:

- Reduce costs per case,
- Shift services to alternative sites of care, and
- Specialize in selected services.¹⁷

The effects of these strategies on quality of health care and the financial viability of institutions are unclear.

Reduce Costs per Case

Hospitals are adopting a range of strategies in response to the incentive to lower their costs per case. The mix of ancillary services provided during an inpatient stay may be changed. Staffing costs may be decreased by changing the skill mix of staff or by reducing employee benefits, staff per bed, or the number of staffed beds. Hospitals have purchased management information systems to help trace and identify costs and to improve patient care management. Various capital financing strategies are being pursued to reduce costs. Mergers or affiliations and contract management, as well as group purchasing and joint marketing strategies, may help hospitals take advantage of economies of scale.

Because supply and pharmaceutical costs reflect 25 to 30 percent of total hospital expenditures, managing these items is critical to the viability of the hospital.¹⁸ By changing their organizational, contractual, and procedural mechanisms of purchase, and by improving inventory tracking and materials distribution, hospitals strive to control average costs per case.¹⁹

One method to control supply and pharmaceutical costs is through group purchasing arrangements.²⁰ These are arrangements in which several hospitals organize to increase their market share and achieve savings from volume discounts and other tactical strategies. A 1978 American Hospital Association survey reported that 64.5 percent of hospitals participated in medical or surgical purchasing groups, while a 1986 survey conducted by *Hospitals* magazine reported a 91 percent participation rate.²¹ Hospitals now belong to an average of 1.5 such groups.²² One industry study reported that hospitals purchase 68 percent of pharmaceuticals, 66 percent of disposables, and 52 percent of medical/surgical supplies through group contracts.²³ Another analyst estimated that 35 to 60 percent of pharmaceuticals are purchased in this manner.²⁴

Hospitals may also try to achieve economies of scale through mergers or affiliations with organizations providing similar services. According to a 1985 survey of health care systems, the number of acute care hospitals owned, leased, or managed by multihospital systems represented more than 39 percent of the nation's community hospitals, up from 36.5 percent in 1984. The survey also reported that by the end of 1985, 213 centrally managed multihospital systems owned 225 subsidiaries that operated smaller chains. These chains managed nursing homes, HMOs, psychiatric hospitals, home health care agencies, freestanding ambulatory care facilities, and PPOs.²⁵

Contract management may be a way to promote greater efficiency in the hospital industry and reduce costs per case. Under a management contract, a hospital contracts with a centralized management company for particular services in a department or cost center. A recent survey of contract managers reported they served 5,746 clients in 1985, a 14.3 percent increase over 1984.²⁶ More hospitals contracted for housekeeping than for any other service. Other contracted services that increased in 1985 include food service, plant operations and maintenance, hospital-based emergency department management, and pharmacy. Hospital contracts for nursing, public relations, and security declined in 1985.²⁷

Clearly, PPS and other changes in health care delivery have given hospital managers incentives to develop new management strategies for providing hospital services. In some instances, these strategies have contributed to the delivery of more efficient health care. However, all hospitals may not be able to benefit equally from management innovations.

Shift Services to Alternate Sites of Care

A per-case payment system such as PPS creates incentives for hospitals to provide as many services as possible outside of the hospital stay, reducing length of stay and thereby lowering inpatient costs. This strategy can also increase a hospital's revenues if it has a financial interest in the alternate site of care. In addition, a hos-

pital may find this management strategy attractive because other sites of care are not as closely regulated.

The emergence of hospital-controlled clinics and centers to provide services previously performed in the acute setting allows the hospital to maintain control over the revenues from providing these services. Hospitals are also offering occupational health programs focusing on prevention or control of work-related hazards and illnesses. In addition, wellness programs are being offered through more hospitals. Because hospital stays are shorter, patients are more likely to need post-hospital services.²⁸ Hospitals are also exploring and expanding linkages with long-term care facilities.

Shifting services to alternate sites of care may both improve the appropriateness of care delivered and reduce costs. On the other hand, some services may be added or duplicated. Total health care costs would then increase rather than decrease. Unfortunately, services and care provided outside of a hospital setting are not closely monitored, so the effect of this change in service delivery cannot be measured at this time.

Specialize in Particular Services

PPS provides incentives for hospitals to identify services they can provide efficiently and profitably. Specialization in these services may allow the hospital to increase efficiency, expand market share, and reduce costs. The increase in system-affiliated hospitals may indicate efforts to integrate services geographically to centralize specific treatment modalities. Through use of demographic surveys and analysis of strengths, hospitals can target certain procedures as areas of expertise.

Hospitals are increasing the size and budget of advertising and marketing departments to expand their market share of the services or population groups targeted for specialization. One survey indicated that advertising budgets are expected to approach an annual average of \$94,000, up 46 percent from 1985.²⁹ Hospitals are also developing sophisticated marketing

techniques, including market segmentation and specialization. According to another survey, 44 percent of hospital executives responding cited specialization by customer group as the marketing strategy receiving the most emphasis.³⁰ Another 23 percent emphasized specialization by geographic market, while 20 percent emphasized specialization by disease area.

HOSPITAL UTILIZATION AND PROVISION OF SERVICES: AN OVERVIEW

Admission and occupancy rates continue to show declines in the utilization of hospital inpatient services, while LOS apparently leveled off during the first eight months of 1986. In contrast, utilization and revenue data indicate that hospital outpatient services are increasing.

In 1985, the Medicare CMI continued to rise. The LOS for Medicare patients decreased overall, while LOS for patients classified in surgical DRGs increased. Charges for routine and special care days reflected relatively fewer routine days and more special care days used by Medicare patients.

Hospital expenses continued to grow more slowly than before the implementation of PPS. Expenses in ancillary cost centers grew faster than expenses in the routine cost center from 1981 through the first year of PPS. Capital costs continued to increase faster than total costs through the first eight months of 1986.

While total inpatient FTEs decreased during the first eight months of 1986, inpatient FTEs per admission and total hospital FTEs increased. In addition, the trend toward the use of more part-time employees continued. The proportion of higher-skilled employees in the hospital work force grew from 1980 to 1985.

While hospital financial condition improved during 1985, data for the first eight months of 1986 show that operating margins have decreased. Hospitals continue to adopt management strategies to reduce costs per case, shift services to alternate sites of care, and specialize in services.

Notes to Chapter 2

1. Securities Data Company's Municipal Data System.
2. *Efforts Undertaken by Hospitals in Preparing for Major Capital Expenditures* prepared by the Center for Hospital Finance and Management, The Johns Hopkins University, under ProPAC contract No. T-33730907, August 1986.
3. For 1983 to 1985, the data include all tax-exempt financing with principal amounts of at least \$5 million. For 1986, the data include all principal amounts.
4. Caution should be exercised when examining and interpreting financial ratios. Financial statements, from which ratio values are derived, provide summary records of past performance. Statement amounts are expressed in historical dollars. Therefore, the changing value of the dollar may reduce the usefulness of certain ratios whose numerator and denominator are expressed in different terms. Second, there may be diversity in defining the individual elements comprising the ratio amounts, depending on the methods used for calculating depreciation, inventory, and other values. Finally, balance sheet information reflects a single point in time. These values fail to indicate short-term fluctuations in assets and equities occurring during the year.
5. Information was obtained from Healthcare Financial Management Association's *Hospital Industry Analysis Report 1981-1985* (Oakbrook, IL: HFMA, 1986). Approximately 1,350 hospitals are reported in HFMA's national ratio analysis service. Data for 1985 represent median ratio values calculated using hospital financial statements for fiscal year ending in calendar year 1985. In using the FAS data to form conclusions regarding the financial condition of hospitals, caution should be exercised because the sample represents only about 23 percent of all acute non-government hospitals.
6. (Total operating revenue - operating expenses) divided by total operating revenue.
7. (Total revenue - total expenses) divided by total revenue; American Hospital Association Panel Survey data. While FAS and AHA data may reflect similar trends, ratio values will differ. This is mainly due to the fact that AHA values are computed using mean aggregate amounts for all hospitals reporting. The FAS ratios represent median values for individual hospitals subscribing or volunteering data. In addition, there are timing differences with the data. AHA ratios are derived from monthly panel survey financial information, whereas FAS ratios are calculated from annual financial statements for hospital fiscal years falling within a given calendar year. These financial statements, therefore, may partially reflect periods prior to the calendar year observed.
8. Current assets divided by current liabilities. The current ratio is a measure of short-term debt-paying ability.
9. Net patient accounts receivable divided by net patient service revenue, then divided by 365. This ratio refers to the average number of days elapsing before a hospital receives payment for services rendered.
10. Total operating revenue divided by total assets. The total asset turnover ratio is an index of operating revenue generated per dollar of assets invested.
11. Excess of revenue over expense plus depreciation divided by current liabilities plus long-term debt. This ratio measures long-run debt repayment ability.
12. Fund balance divided by total assets. The equity financing ratio measures the propor-

tion of assets financed with equity versus debt. Hospital ownership can affect equity financing levels. Hospitals that are government sponsored, for example, may not record some of their debt on their records. Instead it would be carried on the sponsoring entity's records. This would increase the proportion of assets financed with equity.

13. American Hospital Association membership files and Annual Survey Data on hospitals, 1985.
14. Ross M. Mulner, Ph.D., David L. McNeil, and Steven Andes, Ph.D., "Hospital Closure: Who Will Be at Risk in the Upcoming Decade?," *Healthcare Financial Management* 40(1):42-48, January 1986.
15. Median total margins = (total revenues - total expenses) divided by total revenues.
16. Steven R. Steiber, Joseph A. Boscarino, and E. David Jackson, "Finance Driving CEOs' Strategic Plans," *Hospitals* 59(23):69-71 December 1, 1985.
17. Many of these ideas are from a report to ProPAC by Nadya K. Schmavonian, *Review of Hospital Managerial Strategies Adopted in Response to PPS Incentives* April 18, 1986.
18. David Barkholz, "Cost Consciousness Gives Managers a Chance to Standardize," *Modern Healthcare* 15(15):65-66, July 19, 1985.
19. *Medical Supplies and Pharmaceuticals: A Review of the Literature on Hospital Management Strategies and Manufacturer Responses in an Era of Prospective Payment* prepared by Lewin and Associates, incorporated, under ProPAC contract No. T-33731757, December 1986.
20. Prior to the enactment of the Omnibus Budget Reconciliation Act of 1986 (OBRA 1986) Pub.L. 99-509, vendor-paid fees to cover the administrative or transaction cost of group purchasing organizations were considered to be kickbacks and were illegal. OBRA 1986 provides an exception to the anti-kickback provisions for fees paid by vendors of goods and services to authorized purchasing agents of provider groups receiving Medicaid or Medicare payments, if certain conditions are met.
21. William O. Cleverly, and Paul C. Nutt, "The Effectiveness of Group-Purchasing Organizations," *Health Services Research* 19(1):65-81, April 1984; B. Gentile and M. Harju, "Purchasing Budgets to Remain Static Through 1988," *Hospitals* 60(15):66-68, August 5, 1986.
22. "Coordinator Is the Key to Successful Group Purchasing," *Hospital Purchasing Management* 9(6):3-6, June 1984.
23. Gentile and Harju, *ibid.*, 66.
24. Jennifer Fine, "New Ways to Select, Buy Drugs Cuts Costs for Purchasing Groups," *Modern Healthcare* 16(11):74, May 23, 1986.
25. Donald E. L. Johnson, "Multiunit Healthcare Providers Continue to Diversify in 1985," *Modern Healthcare* 16(12):49-57, June 6, 1986.
26. Howard J. Anderson, "Large Hospitals Hiring Managers to Reduce Expenses," *Modern Healthcare* 16(18):49-59, August 29, 1986.
27. Anderson, *ibid.*, 49-50.
28. Joyce Jensen and Ned Miklovic, "Occupational Health, Wellness Offerings Gaining Popularity Among Employers," *Modern Healthcare* 15(26):50-51, December 20, 1985.
29. "Marketing Budgets on the Rise," *Hospitals* 60(5):68, March 5, 1986.

Chapter 3

Selected Distributional Aspects of PPS on Hospitals

Selected Distributional Aspects of PPS on Hospitals

The prospective payment system has changed the relative payment amounts that different hospital groups receive. Understanding the redistribution of payments provides insight into the extent to which hospitals must adapt to the new incentives and requirements of PPS. Such reallocations may ultimately relate to the ability of the hospital industry to continue providing Medicare beneficiaries with high-quality services.

This chapter presents a descriptive analysis of the following selected distributional effects of PPS on hospitals. The aspects discussed are:

- Changes in the area wage adjustment,
- Redistribution of PPS payments through the transition to national rates,
- Outlier cases and payments,
- Hospital case-mix index change, and
- PPS operating margins.

The area wage analysis examines the change in the area wage adjustment arising from recently implemented policy, which resulted from the Health Care Financing Administration's (HCFA) use of an improved data base. The other analyses present more general information on how these aspects are distributed across hospital groups as a result of ongoing policy.

The hospital groups used for each analysis are:

- Urban, rural referral centers, and other rural;
- Combination of urban/rural and bed size;
- Census Division;
- Teaching status; and

- Disproportionate share status.

Rural referral centers were examined separately from other rural hospitals because they qualify for payment at the urban rate. Qualification criteria include a relatively high volume of discharges and complex case mix.

Major teaching hospitals have a ratio of intern and residents to bed size that equals or exceeds 0.25; other teaching hospitals have a ratio of greater than zero but less than 0.25. Hospitals with disproportionate share status qualify for additional payment because they serve a high proportion of low-income patients.

The proportion of hospitals, Medicare discharges, and PPS payments by each hospital group appears in Table 20. About half of the roughly 5,700 hospitals under PPS are located in urban areas and half in rural areas. Rural hospitals account for only about 16 percent of PPS payments, however. Approximately 3 percent of PPS hospitals are designated as rural referral centers.

The distribution of PPS payments can be further understood by separately examining the payment components. These components are the basic wage-adjusted payment amount, payments for the indirect costs of teaching interns and residents, outlier payments, and payments to hospitals serving a disproportionate share of low-income patients. The proportion of PPS payments attributed to each of these components under fully national PPS rates is shown in Table 21.

Table 20. Proportion of Hospitals, Discharges, and PPS Payments, by Hospital Type (In Percent)*

Hospital Type	Hospitals	Discharges	PPS Payments ⁺
All hospitals	100%	100%	100%
Urban	51	75	84
Rural referral centers	3	4	4
Other rural	46	21	12
Major teaching	3	7	12
Other teaching	16	32	37
Non-teaching	81	61	51
Disproportionate share	22	28	33
Non-disproportionate share	78	72	67
New England	5	6	6
Middle Atlantic	9	14	17
South Atlantic	14	16	14
East North Central	16	19	20
East South Central	9	9	7
West North Central	13	9	8
West South Central	15	11	10
Mountain	7	4	4
Pacific	13	12	14
Urban < 100 beds	11	4	4
Urban 100-249 beds	19	19	19
Urban 250-404 beds	12	23	25
Urban 405-684 beds	7	21	25
Urban 685 + beds	2	9	12
Rural < 50 beds	21	4	2
Rural 50-99 beds	16	7	4
Rural 100-169 beds	8	7	4
Rural 170 + beds	4	7	5

* Columns may not sum to total due to rounding.

⁺ PPS payments computed under fiscal year 1987 rules as if all hospitals had accounting years identical to the Federal fiscal year. See Appendix A.

SOURCE: ProPAC estimates based on fiscal year 1985 MEDPAR patient billing data and hospital-level data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

AREA WAGE ADJUSTMENT

The area wage index is used to adjust hospital payments to account for the impact of area wage rates on hospital costs. The index is calculated as the ratio of the average wage of all the hospitals within an area to the national average

hospital wage. This ratio represents the cost of labor within an area relative to the national average. For fiscal year 1987, 365 wage indexes represent 317 urban areas and 48 rural areas.

The area wage index has a major effect on hospital payments. Under PPS, hospital pay-

Table 21. Distribution of Payments Under Fully National PPS Rates, by Type of Payment (In Percent)^a

Hospital Type	Basic Payment	Outlier Payment ^b	Indirect Teaching Payment ^c	Disproportionate Share Payment ^d
All hospitals	90.0	4.2	4.1	1.7
Urban	88.4	4.7	4.9	2.0
Rural referral centers	95.3	2.8	1.9	*
Other rural	97.7	1.8	0.2	0.2
Major teaching	67.9	7.6	20.3	4.2
Other teaching	87.6	4.9	5.8	1.7
Non-teaching	95.7	3.2	0.0	1.1
Disproportionate share	81.8	5.5	7.3	5.5
Non-disproportionate share	93.5	3.7	2.8	0.0
New England	83.3	9.5	6.5	0.8
Middle Atlantic ^e	87.5	4.5	6.6	1.4
South Atlantic	89.9	4.8	3.4	1.9
East North Central	89.1	4.1	5.3	1.5
East South Central	92.1	3.6	2.1	2.3
West North Central	92.4	3.2	3.6	0.9
West South Central	92.8	2.9	2.4	1.9
Mountain	93.3	2.8	3.1	0.7
Pacific	90.1	3.7	3.7	2.6
Urban < 100 beds	96.7	2.6	0.5	0.3
Urban 100-249 beds	92.4	3.8	1.5	2.3
Urban 250-404 beds	90.0	4.6	3.5	1.9
Urban 405-684 beds	85.8	5.3	7.0	1.9
Urban 685 + beds	80.4	6.1	11.2	2.2
Rural < 50 beds	98.5	1.1	*	0.4
Rural 50-99 beds	98.2	1.4	0.1	0.3
Rural 100-169 beds	97.7	1.9	0.3	0.1
Rural 170 + beds	95.2	3.1	1.6	0.1

* = less than 0.1 percent.

Rows may not add to 100 percent due to rounding.

^a For a description of the data and methodology underlying the estimates, see Appendix A of this report.

^b Includes indirect teaching and disproportionate share payments earned on outlier cases.

^c Excludes indirect teaching payments earned on outlier cases.

^d Excludes disproportionate share payments earned on outlier cases.

^e New York hospitals were excluded from estimates presented in this table. Estimated payments to New York may be overstated. In particular, predicted outlier payments are unlikely to be entirely realized because PPS has incentives to reduce length of stay.

SOURCE: ProPAC estimates based on fiscal year 1985 MEDPAR patient billing data and hospital-level data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

ments are adjusted to reflect area wage differences by multiplying the labor-related portion of the Federal payment amount by the hos-

pital's area wage index. In fiscal year 1987, the labor-related portion of the Federal payment

amount is 74.39 percent. The wage index ranges from 0.7407 to 1.6887.

Improved Data Base

During the first two years of prospective payment, the wage index was based on a national survey of hospital wages and employment conducted by the Bureau of Labor Statistics (BLS). The BLS survey, however, contains several important technical limitations that affect the accuracy of the area wage index. For example, the survey does not distinguish between part-time and full-time employees. Consequently, the BLS wage index was understated in areas that employ an above-average share of part-time workers.

To address this limitation, HCFA conducted its own survey of wages in hospitals subject to PPS. The survey measured the total hours of employment in each hospital rather than the total number of employees. This change permitted a more accurate measurement of the impact of part-time employees on average area wages.

Beginning on May 1, 1986, the Secretary of HHS implemented a revised area wage index based on the HCFA wage survey. In fiscal year 1987, the wage index is also based on this survey, with minor changes.

Impact of Improved Wage Index

The impact of using the improved wage index is shown in Table 22. Using BLS statistics for fiscal year 1985 and HCFA figures for fiscal year 1987, this table compares the average difference in wage indexes for various groups of hospitals. The differences reflect the distributional impact of replacing the wage index based on BLS data with one based on HCFA survey data.

Smaller hospitals have benefited from the implementation of the improved wage index. This is true for both urban and rural hospitals. Rural hospitals with fewer than 50 beds had a greater increase in average wage indexes than any other hospital group. Hospitals in urban areas with more than 405 beds, and those in rural areas with more than 100 beds, experienced decreases in their average wage indexes. Overall,

rural hospitals had a slightly greater increase than urban hospitals.

DISTRIBUTION OF PPS PAYMENTS ACROSS HOSPITALS

The change from cost-based reimbursement to prospective payment based on national averages has a significant effect on the distribution of Medicare payments to hospitals. The payment redistribution occurs over a transition period, during which PPS payments are a blend of hospital-specific rates, regional average rates, and national average rates.

In fiscal year 1987, payments for most hospitals are a blend of 25 percent hospital-specific, 37.5 percent regional, and 37.5 percent national rates. Beginning in fiscal year 1988, payments will be based entirely on national rates.

Redistributional Effects

Table 23 presents the redistributional effects of the shift in payments. It shows relative percentage differences in per-case payments, for different types of hospitals, between the fiscal year 1987 blend of PPS payments and fully hospital-specific payments. The table also shows the difference between per-case payments based on discharge-weighted fully national rates and per-case payments based entirely on hospital-specific rates. Because they are based on each hospital's historical costs, payments under hospital-specific rates reflect the distribution of Medicare payments under cost reimbursement. (Appendix A discusses the data and methodology underlying these estimates.)

Much of the pattern of payment redistribution under PPS is difficult to explain. Hospitals that gain the most from national rates are not necessarily the most efficient. Hospitals that are expected to do relatively poorly under national rates may be able to avoid financial problems by reducing costs or otherwise increasing efficiency.

In general, the movement to national rates benefits smaller hospitals, rural referral centers, and hospitals in the Pacific and East South Central Census Divisions. Large hospitals, teaching hospitals, and hospitals in the North

Table 22. Average Wage Index Values for Fiscal Year 1987 and Percent Change, Fiscal Years 1985-1987

Hospital Type	Average Wage Index	Percent Change Fiscal Years 1985-1987
All hospitals	0.9833	0.77%
Urban	1.0855	0.77
Rural referral centers	0.8669	-0.43
Other rural	0.8646	0.83
Major teaching	1.1523	0.98
Other teaching	1.0896	0.75
Non-teaching	0.9548	0.76
Disproportionate share	1.0475	-0.23
Non-disproportionate share	0.9652	1.05
New England	1.0298	2.60
Middle Atlantic	1.0864	-1.08
South Atlantic	0.9085	-3.62
East North Central	1.0175	0.72
East South Central	0.8240	-4.32
West North Central	0.9055	5.03
West South Central	0.8935	-1.31
Mountain	0.9770	3.87
Pacific	1.2256	6.80
Urban <100 beds	1.0652	0.73
Urban 100-249 beds	1.0882	0.60
Urban 250-404 beds	1.0969	0.93
Urban 405-684 beds	1.0885	-0.11
Urban 685+ beds	1.1249	-0.47
Rural <50 beds	0.8814	2.35
Rural 50-99 beds	0.8597	0.29
Rural 100-169 beds	0.8634	-0.26
Rural 170+ beds	0.8638	-0.93

SOURCE: ProPAC estimates using fiscal year 1985 hospital-level data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

Central region fare relatively poorly under national rates.

Effect of Adding New York Hospitals

The addition of New York state hospitals, which began PPS in January 1986, could have a major effect on the distribution of PPS payments. In particular, when modeled using fiscal year 1985 Medicare discharges, New York hospi-

tals would absorb more than 35 percent of all outlier payments. This estimate results from the relatively long lengths of stay New York experienced before it was included in PPS.

New York's previous payment system, unlike PPS, had no incentives to shorten length of stay since payments were made on a per-diem basis. Given the new incentives to New York hospitals under PPS, the outlier payments estimated here

Table 23. Average Relative Difference Between Per-Case Payments Based on Hospital-Specific Rates and Payments Under Two Phases of Federal Rates (In Percent)*

Hospital Type	<u>Without New York</u>		<u>With New York +</u>	
	Current Blend	Fully National	Current Blend	Fully National
All hospitals	0	0	0	0
Urban	0.1	-0.4	0.3	0.1
Rural referral centers	7.9	9.9	6.2	7.4
Other rural	-2.5	-0.6	-3.7	-2.6
Major teaching	-0.5	-1.2	1.8	2.3
Other teaching	-1.0	-1.9	-0.7	-1.5
Non-teaching	0.8	1.5	0.1	0.5
Disproportionate share	0.4	0.7	2.2	3.3
Non-disproportionate share	-0.2	-0.3	-1.1	-1.6
New England	2.6	1.7	0.8	-0.8
Middle Atlantic	-2.0	-1.4	8.4	12.7
South Atlantic	0.6	1.5	-1.2	-1.0
East North Central	-1.9	-5.2	-3.6	-7.7
East South Central	0.6	4.8	-1.1	2.4
West North Central	-3.1	-2.3	-4.8	-4.7
West South Central	-2.7	-1.3	-4.4	-3.8
Mountain	-1.7	-0.3	-3.4	-2.8
Pacific	6.1	6.2	4.4	3.7
Urban <100 beds	10.4	12.8	9.6	11.9
Urban 100-249 beds	1.4	1.7	1.4	1.7
Urban 250-404 beds	-0.7	-1.1	-1.1	-1.5
Urban 405-684 beds	0.5	-0.2	0.7	0.1
Urban 685+ beds	-4.8	-6.7	-1.6	-2.2
Rural <50 beds	8.6	15.1	7.0	12.7
Rural 50-99 beds	-0.2	2.6	-1.5	0.7
Rural 100-169 beds	-1.9	-1.0	-3.2	-3.0
Rural 170+ beds	-2.6	-2.6	-4.0	-4.8

* Current blend, beginning in fiscal year 1987, is 25 percent hospital-specific, 75 percent Federal rates. For a description of data and methodology, see Appendix A.

+ Estimated payments to New York may be overstated. In particular, predicted outlier payments are unlikely to be entirely realized because PPS has incentives to reduce length of stay.

SOURCE: ProPAC estimates based on fiscal year 1985 MEDPAR patient billing data and hospital-level data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

are probably overstated. Preliminary estimates indicate that length of stay for Medicare patients in New York hospitals has declined considerably, which should result in fewer outlier

days. The average length of stay shortened from 10.9 days during the first six months of 1985 to 10.1 days during the corresponding period in 1986, a drop of 7.8 percent.

Table 23 also shows the effects of adding New York hospitals. Although payments to other hospitals do not change, the addition of New York raises the national average payment. Therefore, the position of other hospitals relative to the average is affected. For example, the difference between hospital-specific and fully national payments to disproportionate share hospitals is 0.7 percent above the average without New York and 3.3 percent above the average with New York.

OUTLIERS

Outlier payments are additional compensation for Medicare cases that are considered either atypically long or unusually expensive as determined by specific threshold criteria. The additional payments help to defray some of the losses incurred by hospitals due to random occurrence of outlier cases.

Financing and Identification of Outliers

Outlier payments are financed in the following manner. The statute requires that each year, outlier payments be targeted at 5 to 6 percent of the total projected Federal payments for discharges in that year.¹ The fiscal year 1987 target is 5 percent. The actual proportion of payments made for outliers may be more or less than the targeted amount, depending on the occurrence of cases.

A provision of the Omnibus Budget Reconciliation Act of 1986 (OBRA 1986) created separate outlier contributions for urban and rural hospitals rather than continuing payment for outliers from a single contribution. Standardized amounts for rural hospitals are reduced by 2.2 percent; for urban hospitals, by 5.4 percent. Together, urban and rural outlier payments are estimated to be about 5 percent of standardized amounts, as the PPS statute requires. This change removes a tendency for rural hospitals, which have relatively few outlier cases, to subsidize outlier payments to urban hospitals.

Outlier cases are identified by length of stay or by cost. For length of stay outliers, a per-diem payment is made for each Medicare-covered day of care beyond the outlier threshold.

(Length of stay outliers are also known as day outliers.) The threshold is set at the lesser of 17 days or 1.94 standard deviations above the DRG-specific geometric mean length of stay for fiscal year 1987.

A case that does not qualify as a length of stay outlier is eligible for payment as a cost outlier, when costs for covered services exceed the greater of two times the wage-adjusted Federal rate for the DRG or \$13,500.² Costs are estimated by multiplying the billed charges for Medicare-covered services by 66 percent, the national ratio of Medicare inpatient operating costs to Medicare inpatient charges. This yields what is referred to as the "calculated cost."

Outlier payments for care beyond the designated thresholds are based on the marginal cost of care. For length of stay outliers, payment for each day is 60 percent of the appropriate per-diem amount. For cost outliers, payment is 60 percent of the difference between the calculated cost and the threshold.

For fiscal year 1984, HCFA set outlier thresholds expecting that 85 percent of outlier payments would be for length of stay outliers, and 15 percent for cost outliers. HCFA reasoned that length of stay was a more reliable and consistent measure of resource use than costs estimated from charges. In addition, paying a greater portion of outlier payments for high-cost outliers would potentially reward relatively inefficient hospitals.

The actual split of fiscal year 1984 PPS outlier payments was very different, however: 63 percent for length of stay outliers and 37 percent for cost outliers. Fewer cases qualified as length of stay outliers because the thresholds were based on 1981 data and did not reflect the dramatic decline in overall length of stay.

Distribution of Cases and Payments

Information on length of stay, cost, and total outliers as a fraction of all PPS payments and cases appears in Table 24. Outlier payments were derived by applying fiscal year 1987 thresholds to cases in the 1985 MEDPAR file. Payments were estimated using fully national

rates. While these data are not forecasts for any particular year, they should provide a reasonable representation of outlier payment distributions under a fully implemented system.

Regardless of any distributional differences, the results suggest that outlier payments under

fiscal year 1987 thresholds will be near the 5 percent target. Outlier payments are estimated to be at least 4.2 percent of total PPS payments excluding New York hospitals, and at most 6.0 percent including New York hospitals. Including New York hospitals in the calculations may overstate the amount of outlier payments.

Table 24. Percent of All Cases and Payment Amounts to Outliers, by Hospital Type*

Hospital Type	<u>Total Outlier</u>		<u>Cost Outlier</u>		<u>Day Outlier</u>	
	Cases ⁺	Payments ⁺	Cases	Payments	Cases	Payments
All hospitals	3.7	4.2	0.5	0.4	3.2	3.8
Urban	4.3	4.7	0.5	0.4	3.8	4.3
Rural referral centers	2.9	2.8	0.4	0.3	2.5	2.5
Other rural	1.8	1.8	0.4	0.4	1.5	1.4
Major teaching	6.5	7.6	0.4	0.2	6.1	7.4
Other teaching	4.7	4.9	0.4	0.3	4.2	4.6
Non-teaching	3.0	3.2	0.5	0.5	2.4	2.7
Disproportionate share	4.7	5.5	0.5	0.4	4.2	5.1
Non-disproportionate share	3.4	3.7	0.5	0.4	2.9	3.3
New England	6.4	9.5	0.2	0.1	6.2	9.4
Middle Atlantic	4.2	4.5	0.5	0.4	3.8	4.1
South Atlantic	4.0	4.8	0.6	0.6	3.4	4.2
East North Central	3.9	4.1	0.3	0.2	3.6	3.9
East South Central	3.3	3.6	0.5	0.5	2.8	3.1
West North Central	3.0	3.2	0.3	0.3	2.6	2.9
West South Central	2.9	2.9	0.5	0.4	2.4	2.5
Mountain	2.9	2.8	0.7	0.6	2.2	2.2
Pacific	3.4	3.7	0.8	0.7	2.6	3.0
Urban < 100 beds	2.3	2.6	0.4	0.4	1.8	2.2
Urban 100-249 beds	3.5	3.8	0.6	0.6	2.9	3.2
Urban 250-404 beds	4.3	4.6	0.5	0.4	3.8	4.2
Urban 405-684 beds	5.0	5.3	0.5	0.4	4.4	4.9
Urban 685+ beds	5.7	6.1	0.4	0.3	5.3	5.8
Rural < 50 beds	1.1	1.1	0.1	0.1	0.9	1.0
Rural 50-99 beds	1.5	1.5	0.3	0.4	1.1	1.1
Rural 100-169 beds	2.1	1.9	0.5	0.5	1.7	1.4
Rural 170+ beds	3.2	3.1	0.5	0.5	2.6	2.6

* Payments estimated under fully national rates. New York hospitals were excluded from estimates presented in this table. Estimated payments to New York hospitals may be overstated. In particular, predicted outlier payments are unlikely to be entirely realized because PPS has incentives to reduce length of stay.

⁺ Totals may not sum due to rounding.

SOURCE: ProPAC estimates based on fiscal year 1985 MEDPAR patient billing data and hospital-level data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

Length of stay in New York hospitals is likely to shorten under PPS, resulting in fewer outlier days.

An estimated 3.7 percent of total PPS cases are outliers under fiscal year 1987 rules; 87 percent of these are length of stay outliers. This represents a 90:10 ratio between length of stay and cost outlier payments. The number of cost outlier cases may be understated, however, because the 1985 charges used to derive costs were not inflated for these estimates. Including New York in the calculation results in 4.3 percent of PPS cases being outliers, of which 85 percent would be length of stay outliers.

Outlier cases are not evenly distributed among various types of hospitals. Urban hospitals and large hospitals tend to have a higher proportion of outlier cases than rural hospitals and small hospitals. Teaching hospitals and disproportionate share hospitals also have a larger percentage of outlier cases than their counterparts. New England hospitals have a higher percentage of outlier cases than hospitals in other regions. Hospitals in the West North Central, West South Central, and Mountain Census Divisions have a relatively small percentage of outlier cases.

The distribution of outliers by cost and length of stay distinction is not uniform. Compared with cost outliers, length of stay outliers appear to be more positively associated with teaching status and hospital size. There is also substantial variation across regions.

Systematic differences across hospital types may reflect variation in patient mix. For example, because teaching hospitals treat more severely ill patients, they have more cases that qualify as outliers than non-teaching hospitals.

Historical trends in length of stay may also explain the variation in outlier cases. For example, cost outlier payments account for 3.2 percent of total outlier cases in New England, but nearly 25 percent in the Pacific Census Division. Although a smaller percentage of cases are identified as length of stay outliers in the Pacific region, a correspondingly higher percent-

age of cases are then eligible for consideration as cost outliers.

Despite differences in outlier payment shares across hospital groups, it cannot be determined which groups are at greater risk of serious financial loss. Small rural hospitals may have a relatively low proportion of outlier cases, but these may cause devastating losses to the hospital. It is likely that the relationship between hospital size and proportion of outlier cases tends to spread the financial risk of outliers across hospitals. More definitive conclusions about outliers and risk, however, require further research.

CASE-MIX INDEX CHANGE

The Medicare case-mix index is a measure of the costliness of a hospital's Medicare patient mix relative to the cost of the national average of all Medicare hospital cases. The index is based on the diagnosis-related group in which each patient is classified and the weight that Medicare has assigned to each DRG to reflect its cost relative to other DRGs. An individual hospital's CMI is the average DRG weight of its mix of patients.

Because payments are based on the weights assigned to DRGs, the CMI is closely related to each hospital's Medicare payments. The average hospital CMI has grown steadily since the implementation of PPS, as shown in Table 25. It was 1.000 in fiscal year 1981, 1.057 in fiscal year 1984, and 1.088 in fiscal year 1985.

Explanations for CMI Growth

Two major reasons explain this increase. First, real changes in the types of Medicare admissions have occurred due to shifts in patterns of service delivery, variations in the composition of patients treated, and other factors. In particular, the average weight for Medicare discharges has risen as patients in lower-weighted DRGs are more frequently treated on an ambulatory basis. In addition, changing medical practice patterns involving the use of more resource-intensive procedures, such as cardiac catheterization, have increased the relative number of patients in higher-weighted DRGs.

Table 25. Changes in Average Case-Mix Index*

Hospital Type	1981	1984	1985	Percent Change (1984-1985)	Percent Change (1981-1985)
All hospitals	1.000	1.057	1.088	3.1	9.4
Urban	1.041	1.111	1.146	3.8	11.3
Rural referral centers	1.051	1.109	1.149	3.6	9.4
Other rural	.952	.999	1.022	2.3	7.5
Major teaching	1.126	1.221	1.276	4.6	13.7
Other teaching	1.075	1.159	1.209	4.3	12.8
Non-teaching	.980	1.034	1.062	2.8	8.6
Disproportionate share	1.026	1.091	1.125	2.9	10.1
Non-disproportionate share	.992	1.048	1.078	3.1	9.3
New England	1.041	1.094	1.105	2.0	7.7
Middle Atlantic	1.062	1.089	1.103	3.1	5.9
South Atlantic	.999	1.064	1.093	2.3	9.5
East North Central	1.022	1.070	1.101	3.1	8.2
East South Central	.962	1.008	1.034	2.6	7.7
West North Central	.972	1.038	1.072	3.4	11.0
West South Central	.950	1.026	1.058	3.1	11.3
Mountain	.996	1.046	1.077	3.3	9.2
Pacific	1.052	1.113	1.153	4.0	10.3
Urban < 100 beds	.972	1.016	1.034	2.4	7.9
Urban 100-249 beds	1.028	1.093	1.131	3.6	10.3
Urban 250-404 beds	1.071	1.156	1.207	4.4	12.8
Urban 405-684 beds	1.110	1.210	1.274	5.3	14.9
Urban 685 + beds	1.124	1.259	1.313	4.3	17.3
Rural < 50 beds	.935	.972	.990	2.1	6.3
Rural 50-99 beds	.959	1.012	1.033	2.2	8.0
Rural 100-169 beds	.985	1.046	1.078	3.1	9.1
Rural 170 + beds	1.021	1.081	1.121	3.8	10.0

* Indexes computed using original grouper and DRG weights. Index represents average hospital case-mix index, not weight of the average discharge in the group. Excludes hospitals in Maryland, Massachusetts, New Jersey, and New York, which were not on PPS during this period.

SOURCE: ProPAC estimates using 1981 MEDPAR, fiscal year 1984 PATBILL and fiscal year 1985 MEDPAR patient billing files, and hospital-level data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

Second, hospitals have improved their medical records coding practices. More complete, accurate coding has led to the classification of a greater proportion of patients in higher-weighted DRGs. Coding improvements do not, however, reflect an actual increase in resource use. Coding-related changes that were antici-

pated in the early years of PPS would be expected eventually to taper off. This is because a hospital's ability to improve diagnostic information reported on Medicare bills probably reaches practical limits.

CMI Change Across Hospital Types

The change in CMI varies considerably across different types of hospitals for several possible reasons. Certain types of hospitals may be more able to alter patient mix and change their case-mix index. For example, if a hospital could increase the use of ambulatory surgeries, it could decrease the proportion of inpatients in lower-weighted DRGs. A hospital could also develop a resource-intensive service, such as a cardiac specialty center, to treat patients in the higher-weighted DRGs, thus raising its case-mix index.

Certain types of hospitals may be in a better position to improve medical records charting and coding practices and thus increase their case-mix indexes. They may, for example, devote more resources to improving the medical records department by purchasing a more sophisticated hospital information system. They may also institute clinician training programs that stress the importance of complete charts.

The average hospital case-mix index for 1981, 1984, and 1985 appears in Table 25. The table also shows the percentage change in the CMI from 1984 to 1985 and from 1981 to 1985. Calculations were made using the hospital rather than the case as the unit of measure. That is, the number represents the average case-mix index of each hospital in the group, not the case-mix index of the group as a whole.

In general, the hospital groups with relatively high CMIs also experienced the greatest CMI growth from 1981 to 1985. Both the level and the growth in CMIs vary by hospital group. Urban hospitals and teaching hospitals have higher average CMIs than their counterparts. Large hospitals have higher CMIs than small hospitals. The average case-mix index for hospitals in the New England, Middle Atlantic, and the Pacific regions is higher than the average CMI for all hospitals. Disproportionate share hospitals have higher average CMIs than non-disproportionate share hospitals.

The change in the average hospital CMI was 9.4 percent between 1981 and 1985, as Table 25 shows. Although not reflected in the table, the data showed that one-quarter of the hospitals experienced 13.6 percent or more CMI change.

Another quarter had 4.3 percent or less CMI change. This distribution of change was similar across hospital groups.

CMI change over the 1981 to 1985 period was much greater for teaching and urban hospitals than for non-teaching and rural hospitals. Size is also positively associated with CMI change for both urban and rural hospitals. Hospitals in the West North Central, West South Central, and Pacific regions showed more CMI growth than the all-hospital average. Disproportionate share hospitals had a higher average amount of CMI change than hospitals with non-disproportionate share status. These general patterns of CMI change hold for the 1984 to 1985 period.

CMI in Waivered States

Table 25 excludes CMI data for four PPS-waivered states—Maryland, Massachusetts, New Jersey, and New York—which were not on PPS during this period. Data indicate that, in 1981, the average hospital CMI in waivered states was higher than the CMI for PPS hospitals. However, for hospitals in the waivered states, the average CMI increased less from 1981 to 1985 than for hospitals in non-waivered states. In 1981, the average CMI for hospitals in PPS-waivered states was 1.062. It increased to 1.082 in 1984. By 1985, the average CMI was 1.096, which represents a 3.3 percent increase over 1981.

PPS OPERATING MARGINS

One of the most important ways in which PPS might influence the health care system is to affect the financial status of hospitals. Unlike the cost reimbursement system it replaced, PPS puts hospitals at financial risk for treating Medicare beneficiaries. Ultimately, the financial success or failure of hospitals could affect the access to care and quality of care received by Medicare beneficiaries and other patients.

In Chapter 2, information on the overall financial condition of hospitals was presented. A further source of information, one more directly linked to PPS, is the Medicare Cost Reports. Using these data, PPS margins can be computed. These margins measure the difference between PPS payments and Medicare allowable

operating costs expressed as a percent of PPS payments. The cost reports also include overall financial information, allowing computation of total margins and patient margins for the hospital over all payers.

Analyses of Medicare margins for the first year of PPS have been reported elsewhere; they are controversial because of significant limitations on interpreting the data. A study by the Office of the Inspector General, HHS, concluded that hospitals did very well financially in the first year of PPS.³ HCFA, using a different methodology, also estimated relatively high PPS margins under second- and third-year PPS payment policies.⁴

The interpretation of these analyses is limited for several reasons. First, the data do not reflect the overall financial condition of hospitals. A hospital could, for example, have a relatively high Medicare margin, but have considerable uncompensated care, which would lower its total margin. Data from the American Hospital Association reported in Chapter 2 indicate that overall hospital margins were relatively high during the time period that corresponds to the first year of PPS, but not as high in absolute terms as reported PPS margins.

Second, the data are from the first year of PPS. During fiscal year 1987, hospitals entered the fourth year of PPS. Policy adjustments and other changes since PPS implementation would affect the overall level of PPS margins. Recent data on the overall hospital margins reported in Chapter 2 show that total margins have declined from 6.7 percent in 1985 to 5.5 percent in 1986. In addition, the relative margins across groups would be affected by policy changes, such as the lowering of the indirect teaching adjustment.

Finally, cost report data are subject to distortions created by the accounting methods used. Techniques used to allocate costs to hospital departments and apportion costs between Medicare and non-Medicare patients may inappropriately assign costs. As a result, PPS margins could be under- or overstated.

The tables and discussion below focus on distributional issues rather than on the overall size of PPS margins. Although the level of margins is important, examining the differences in margins across hospitals can provide information about possible systematic problems in PPS payments to hospitals. Moreover, the limitations just described relate more to the overall level of margins than to distributional differences across hospitals.

Distribution of First-Year PPS Margins

Data from the first-year PPS Medicare Cost Reports suggest that there are significant differences, some systematic, in how well hospitals were succeeding financially in the first year of PPS. Table 26 shows the distribution of first-year PPS margins by type of hospital. The first-year PPS margin for all hospitals was 14.8 percent. Despite this high average margin, 10 percent of hospitals had PPS margins less than -5.0 percent. Another 10 percent had margins greater than 23.4 percent. Costs and payments for capital and direct medical education, which are separate from PPS, are also excluded from the margin calculation.

A number of factors are likely to contribute to the range of PPS margins. Some hospitals may have low margins because they experience Medicare costs that are not adequately compensated by the PPS system. Other hospitals may have been slower to reduce costs in the first year of PPS. This may be particularly true of hospitals with relatively high volume declines, since the cost-cutting response to volume declines is not immediate. On the other hand, hospitals might have generated relatively high margins by being quick to reduce costs. In addition, payments to some hospitals may have been higher than in the past because of the PPS payment formula. Changes in the Medicare case-mix index described earlier, for instance, were the source of significant payment increases in the early years of PPS.

Urban and rural hospitals showed the most striking systematic difference in first-year PPS margins. As a group, rural hospitals had a first-year PPS margin of less than 9 percent,

Table 26. First Year PPS Margins, Means, and Percentiles*

Hospital Type	Percentiles					
	Mean	10	25	Median	75	90
All hospitals	14.8	-5.0	3.8	11.6	17.9	23.4
Urban	16.0	1.0	7.8	14.1	19.8	25.3
Rural referral centers	8.5	-3.5	2.5	8.0	13.8	18.0
Other rural	8.8	-10.6	-0.2	8.6	15.1	21.4
Major teaching	21.1	8.1	14.3	18.8	24.2	29.7
Other teaching	16.7	4.3	10.0	15.2	20.2	25.7
Non-teaching	12.4	-6.7	2.6	10.5	16.9	22.4
Disproportionate share	16.2	-2.1	6.8	13.8	20.5	26.2
Non-disproportionate share	14.2	-5.4	3.3	11.1	17.2	22.5
New England	12.8	-1.8	6.4	10.7	15.7	19.6
Middle Atlantic	16.1	2.5	10.3	15.1	20.0	24.5
South Atlantic	12.7	-3.3	3.9	10.4	16.4	21.4
East North Central	15.5	-2.3	5.1	12.2	17.3	22.1
East South Central	10.2	-7.5	1.2	9.0	14.9	21.4
West North Central	17.0	-5.2	3.0	11.1	17.8	24.6
West South Central	16.2	-8.8	2.8	11.8	19.4	25.3
Mountain	14.4	-14.9	0.3	10.5	18.5	24.5
Pacific	15.6	-3.9	5.0	13.3	19.8	26.4
Urban <100 beds	13.9	-6.0	4.6	12.4	19.5	26.7
Urban 100-249 beds	13.9	-0.4	7.3	13.3	19.2	23.6
Urban 250-404 beds	15.1	3.5	9.4	15.0	19.6	24.1
Urban 405-684 beds	16.3	4.7	9.7	15.5	21.1	26.3
Urban 685+ beds	21.6	10.1	14.9	18.9	25.0	28.0
Rural <50 beds	7.3	-18.4	-3.4	7.0	15.2	22.7
Rural 50-99 beds	9.0	-7.2	1.2	9.3	15.8	21.1
Rural 100-169 beds	9.4	-4.8	1.7	8.7	14.1	19.7
Rural 170+ beds	8.4	-4.3	1.9	7.9	13.4	18.1

* PPS margins = PPS revenue minus Medicare operating costs divided by PPS revenue. Excludes pass-through costs and payments. Excludes hospitals in Maryland, Massachusetts, New Jersey, and New York, which were not on PPS during this period.

SOURCE: ProPAC estimates based on first-year PPS Medicare Cost Report data.

compared with 16 percent for urban hospitals. Margins for one-quarter of rural hospitals were less than -0.2 percent. In contrast, the 25th percentile for urban hospitals was 7.8 percent. The group of rural hospitals with fewer than 50 beds had particularly low margins; 10 percent of these hospitals had margins of -18.4 percent or less.

Changes in payment policy since the first year of PPS are likely to have somewhat reduced the disparity between the urban and rural groups. The contributions of rural hospitals to funding outlier payments have been reduced to reflect more appropriately the outlier experience of these hospitals. Moreover, beginning in fiscal year 1988, the method for averaging

ing national payment rates will change. Under the new discharge-weighted method, payment rates for rural hospitals will be less influenced by the many small, low-cost rural hospitals with few Medicare discharges. Partly as a result of this policy change, small rural hospitals will experience relatively large increases in payment as a result of the transition to fully national PPS payment rates (see Table 23).

The large difference in margins between the urban and rural groups probably reflects more than PPS payment disparities, however. Bed size seems to be an important factor. Median first-year PPS margins for urban hospitals increase with bed size. As with rural hospitals, small urban hospitals were more likely to have negative margins than larger urban hospitals.

Major teaching hospitals had relatively high PPS margins, 21.1 percent as a group, compared with 12.4 percent for non-teaching hospitals. The relatively generous indirect teaching allowance in the first year of PPS had some influence on these margins. This cannot be a full explanation, however, since in the first year of PPS the teaching allowance was applied to only the quarter of payments that were based on regional averages. The rest of the per-case payment rate was hospital-specific.

To some extent, differences in PPS margins across regions and by teaching and disproportionate share status were influenced by the low margins for small rural hospitals. For example, 10 percent of the hospitals in the Mountain Census Division, which has a relatively high proportion of small rural hospitals, had first-year PPS margins of -14.9 percent or less. The group of non-disproportionate share hospitals includes most rural hospitals, since less than 9 percent of rural hospitals qualify for disproportionate share status. The addition of disproportionate share payments in the third year of PPS would increase the disparity between these groups.

Both the level and distribution of current PPS margins may differ from those shown here for the first year of PPS. Changes in costs and responses to PPS incentives are likely to have occurred since then. As mentioned previously,

changes in payment policy have also affected the distribution of payments to hospitals. These include the transition to national rates, the reduction in additional payments to teaching hospitals, implementation of an adjustment to payments for hospitals serving a disproportionate share of low-income patients, and changes in payments to rural hospitals.

Comparison of PPS Margins with Total Margins

PPS margins are not directly indicative of the overall financial condition of hospitals. Median first-year PPS margins were higher than median total and patient margins for the same reporting period (see Table 27). The median first-year PPS margin was 11.6 percent, compared with a 6.7 percent median total margin and a 2.5 percent median patient margin. By definition, half the hospitals have margins above the median and half below.

Overall margins were computed using financial information provided on the Medicare Cost Report from the first year of PPS. This section of the cost report is not audited and does not affect Medicare payment. The overall medians presented here, however, are consistent with data from the American Hospital Association for the relevant time period.⁵

The large difference between the median PPS margin and the overall patient margin results from various factors. First-year PPS margins may be relatively high due to the structure of the PPS payment system. The change to prospective payment also caused cost reductions in the care of Medicare patients. In addition, overall patient margins reflect discounts and other competitive pressures from non-Medicare payers. Moreover, overall patient margins reflect hospitals' total admissions and all the services provided, including losses associated with patients who have no insurance coverage and cannot afford to pay their bills.

The difference between total margins and patient margins indicates the role of non-patient revenue in hospital finance. These revenues include charitable donations and government grants as well as income earned on investments

Table 27. Comparison of Median PPS, Total, and Patient Margins in the First Year of PPS*

Hospital Type	Median PPS Margin	Median Total Margin	Median Patient Margin
All hospitals	11.6	6.7	2.5
Urban	14.1	7.6	4.0
Rural referral centers	8.0	7.9	3.4
Other rural	8.6	5.0	0.2
Major teaching	18.8	4.9	-4.3
Other teaching	15.2	7.8	3.8
Non-teaching	10.5	6.6	2.3
Disproportionate share	13.8	6.3	2.3
Non-disproportionate share	11.1	6.9	2.7
New England	10.7	7.2	2.0
Middle Atlantic	15.1	9.1	5.1
South Atlantic	10.4	7.9	3.8
East North Central	12.2	5.3	1.6
East South Central	9.0	7.5	4.2
West North Central	11.1	8.5	3.5
West South Central	11.8	6.3	1.4
Mountain	10.5	5.2	0.3
Pacific	13.3	6.4	2.8
Urban <100 beds	12.4	5.1	1.4
Urban 100-249 beds	13.3	7.8	4.7
Urban 250-404 beds	15.0	8.0	4.6
Urban 405-684 beds	15.5	9.1	4.5
Urban 685+ beds	18.9	7.8	3.4
Rural <50 beds	7.0	3.3	-3.7
Rural 50-99 beds	9.3	5.7	1.6
Rural 100-169 beds	8.7	6.4	2.9
Rural 170+ beds	7.9	7.7	3.6

* PPS margins = PPS revenue minus Medicare operating costs divided by PPS revenue. Excludes pass-through costs and payments. Total margin = total revenue minus total operating expenses divided by total revenue. Patient margin = net patient revenue minus total operating expenses divided by net patient revenue. Excludes hospitals in Maryland, Massachusetts, New Jersey, and New York, which were not on PPS during this period.

SOURCE: ProPAC estimates based on first-year PPS Medicare Cost Report data.

and non-patient-related enterprises. Total margins are calculated by taking the difference between total revenue and total expenses as a percent of total revenue. Patient margins are the difference between net patient revenue and total operating expenses as a percent of net patient revenue. Unlike the PPS margins, total and patient margins reflect revenue and ex-

penses for all payers, and include capital and direct medical education costs and revenues.

The pattern of median total and patient margins across hospital groups is generally similar to the pattern of first-year PPS margins. Rural hospitals had lower median total and patient

margins, although the difference between rural and urban margins was much smaller than in the case of PPS margins. Median margins for hospitals in the larger bed size groups were higher than for their smaller counterparts.

Again, rural hospitals with fewer than 50 beds show substantially lower median margins. The median total margin for this group was 3.3 percent. The median patient margin was -3.7 percent. The positive total margin may reflect the role of county government contributions to these hospitals.

The most dramatic difference between the pattern of PPS margins and overall margins is the placement of major teaching hospitals. These hospitals had the highest PPS margin of any group reported, but had a median patient margin of -4.3 percent, the lowest of any group reported. The total margin for major teaching hospitals was somewhat lower than other hospitals as well. The low median patient margin for these facilities may reflect the costs of new treatment modalities, clinical research, and educational costs that are not reimbursed through patient revenue.

Although this analysis and others indicate that, on the whole, the hospital industry is financially healthy, some hospitals are having difficulties. More study is necessary to estimate how policy changes since PPS implementation have affected the financial health of hospitals. Data for one year neither reflect trends nor show the long-term effects of PPS. Further study is also needed to determine how the financial vulnerability of hospitals, particularly those in isolated rural areas, affects beneficiary access to care.

PPS PAYMENT DISTRIBUTION

PPS has redistributed payments across different hospital groups. Smaller hospitals have benefited from the implementation of an im-

proved wage index. The change from cost-based reimbursement to prospective payment based on national averages has a significant effect on the distribution of Medicare payments to hospitals. But hospitals that have gained the most from national rates are not necessarily the most efficient.

Outlier cases are not evenly distributed among various types of hospitals. Actual outlier payments for fiscal year 1987 should be near the expected target of 5 percent of PPS payments. While differences in outlier payment shares across hospital groups are apparent, it cannot be determined which hospital groups are at greater risk of serious financial loss.

The change in the case-mix index over time varies considerably across different types of hospitals. In general, the hospital groups with relatively high CMIs also experienced the greatest CMI growth from 1981 to 1985 and between 1984 and 1985.

Data from the first-year PPS Medicare Cost Reports suggest significant differences, some systematic, in the financial status of hospitals during the first year of PPS. While the first-year PPS margin for all hospitals was 14.8 percent, there is a broad range of PPS margins—from less than -5.0 percent to more than 23.4 percent.

The pattern of total and patient margins across hospital groups is generally similar to the pattern of first-year PPS margins. The most dramatic difference is for major teaching hospitals, which had the highest PPS margin but the lowest patient margin of any group reported.

Further research is necessary to determine the relationship between outlier payments and financial risk by hospital group. More study is also needed to estimate how policy changes since PPS implementation have affected the financial health of hospitals.

Notes to Chapter 3

1. The statute (Section 601 (e) of Pub. L. 98-21) became Section 1886(d)(5)(A) of the Social Security Act; the quote referred to can be found under (iv).
2. The \$13,500 is adjusted by the appropriate area wage index when determining the cost outlier threshold.
3. U.S. Department of Health and Human Services, Office of the Inspector General, Office of Audit, "Financial Impact of the Prospective Payment System on Medicare Participating Hospitals—1984," Audit control no. 09-62021, memorandum, Washington, DC, May 30, 1986.
4. *Federal Register* 51(170):31600-31602, September 3, 1986.
5. Medians are shown instead of means because the latter are more affected by extreme values, which may be the result of unreliable data.

Chapter 4

Financial Effects of PPS on Beneficiaries

Financial Effects of PPS on Beneficiaries

In the Commission's reports to the Congress and the Secretary of Health and Human Services, it has repeatedly expressed concern about the financial effects of PPS on beneficiaries. The April 1986 report contained recommended changes in calculating the inpatient hospital deductible.

This chapter focuses on beneficiary expenditures in light of Medicare Part A and Part B coverage and cost-sharing requirements. The role of supplemental health insurance coverage is also covered. Finally, the chapter discusses how a shift in site of care from inpatient hospital to other settings might affect beneficiary out-of-pocket spending.

HEALTH EXPENDITURES BY THE ELDERLY

HCFA estimates that health spending for individuals 65 and older averaged \$4,200 per person in 1984. Medicare paid 45 percent of these expenses; Medicaid programs, 13 percent; and other public programs, 6 percent. The elderly and their families were directly responsible for an estimated 25 percent of the total health care bill. Private insurers paid the remaining 11 percent.

In 1984, the proportion of out-of-pocket spending varied across different types of medical care services (see Figure 4). Medicare paid for about 75 percent of inpatient and outpatient hospital costs. Much of the remainder was covered by Medicaid or private insurance. Direct expenditures by the elderly were proportionately small.¹ In contrast, the elderly paid about two-thirds of the costs of other acute care services, such as out-of-hospital drugs.

Further, beneficiaries financed 52 percent of nursing home care out-of-pocket in 1984. The House Select Committee on Aging estimated that the burden of nursing home expenditures increased the elderly's out-of-pocket costs to 16 percent of their 1986 income. This percentage tops the 15 percent that prevailed in 1965 when Medicare was enacted. The committee projected that between 1984 and 1990, the elderly's out-of-pocket expenditures for health care will rise twice as rapidly as their income.

MEDICARE COVERAGE

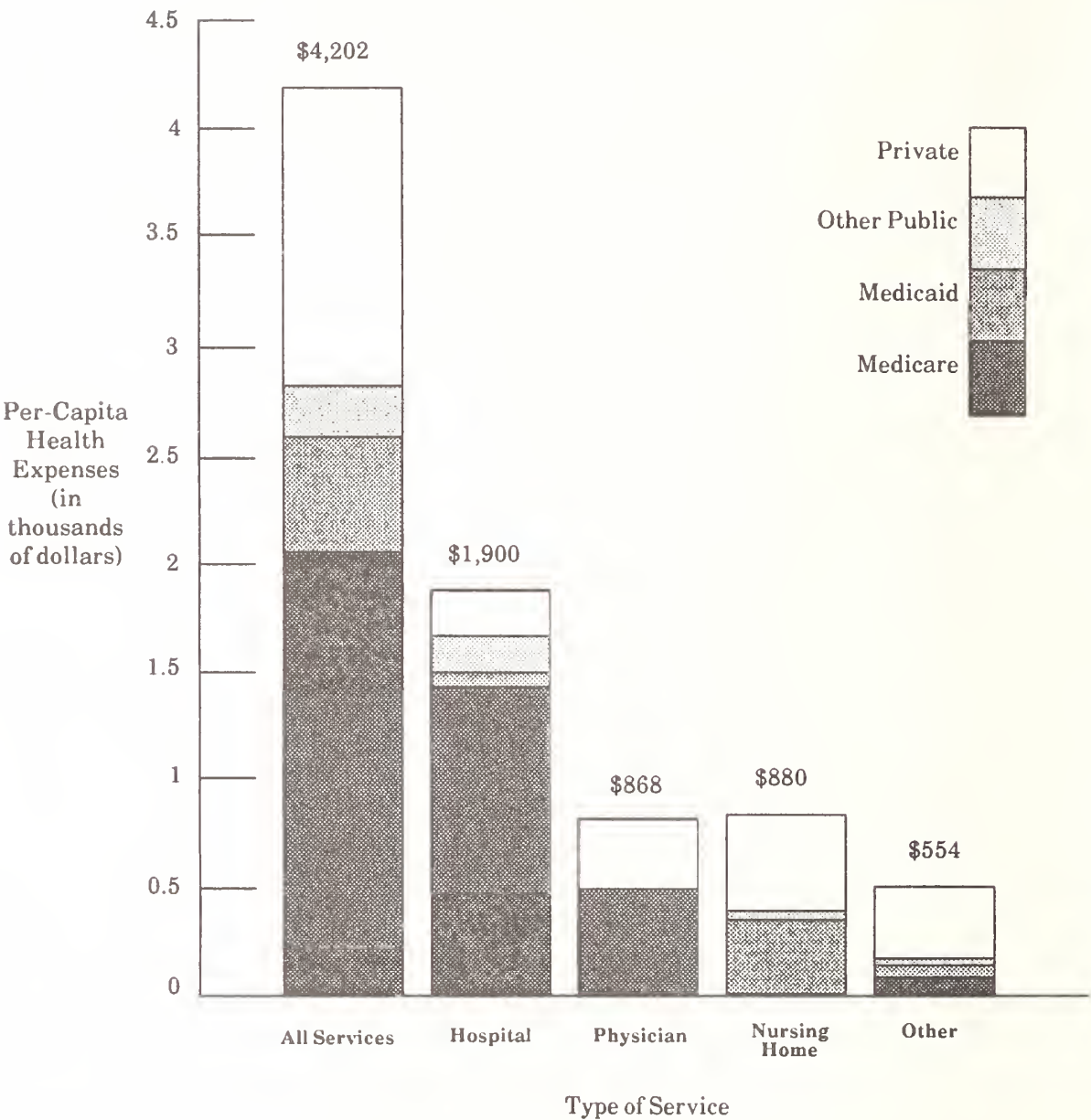
The Medicare program provides the aged and disabled with a basic level of protection from hospital and physician costs.² This chapter deals primarily with the aged population. Details of coverage under Medicare are highlighted. HCFA reports that about 97 percent of the elderly are covered under Part A and 95 percent under Part B.

Medicare Part A, Hospital Insurance

Medicare Part A covers part of the cost of:³

- Inpatient hospital care
 - Day 1 to 60: 100 percent coverage after an initial deductible (\$520 in calendar year 1987)
 - Day 61 to 90: coverage of all but beneficiary daily coinsurance equal to one-quarter of the deductible (\$130 in calendar year 1987)
 - Day 91 to 150: one-time only lifetime reserve days, with daily coinsurance equal to one-half of the deductible (\$260 in calendar year 1987)

Figure 4. Per-Capita Health Care Expenditures for Persons Age 65 and Over, by Source of Funds and Type of Service, 1984



SOURCE: Waldo, D.R., Lazenby H.C., "Demographic Characteristics and Health Care Use by the Aged in the United States: 1977 - 1984," *Health Care Financing Review*, 6(1):1-29, Fall 1984.

- Beyond 150 days: no coverage
- Post-hospital skilled nursing facility care
- Day 1 to 20: 100 percent coverage of Medicare-approved amount
- Day 21 to 100: coverage of all but required daily coinsurance equal to one-eighth of the inpatient hospital deductible (\$65 in calendar year 1987)
- Beyond 100 days: no coverage
- Skilled home health care

- Unlimited days: full coverage for intermittent, medically necessary care for homebound people; requirements for coverage have become increasingly stringent

- Hospice care

- Two 90-day periods and one 30-day period: full coverage with a \$7,391 cap for the period between November 1, 1985 and October 1, 1986

- Limited copayments for drugs and respite care.

Medicare Part B, Supplementary Medical Insurance

Medicare Part B covers part of the cost of:

- Physician services, inpatient and outpatient medical services and supplies, physical and speech therapy

- 80 percent coverage of the Medicare-approved amount after an initial deductible (\$75 in 1986)

- Outpatient hospital treatment

- 80 percent coverage of the Medicare-approved amount after an initial deductible

- Skilled home health care

- Unlimited days: full coverage for intermittent, medically necessary care; requirements for coverage have become increasingly stringent

Because Medicare was not designed to cover all health care costs, enrollees have always shared financial responsibility for covered services. They have been responsible for the total cost of services that Medicare does not cover. Beneficiary expenses include premiums for Part B insurance and deductibles and coinsurance for services covered by Part A and Part B. Table 28 shows historical premium, deductible, and coinsurance amounts for the Medicare program.

Although the Medicare benefit structure most extensively covers hospital acute care services,

beneficiaries are still subject to major out-of-pocket expenses for inpatient care. Enrollees with long hospitalizations and those who exhaust their inpatient hospital benefits are especially vulnerable to high cost sharing.

However, few enrollees ever exhaust their inpatient benefits. A 1984 HCFA study reports that less than 2 percent of beneficiaries who have ever received services used any lifetime reserve days. Only about 120,000 beneficiaries ever used all 60 lifetime reserve days. Yet for those few enrollees with long hospitalizations, the costs are excessive. A beneficiary with a 150-day stay in 1987, who uses 90 days of benefits plus the 60 lifetime reserve days, could incur maximum deductible and coinsurance expenses totaling approximately \$20,000.

Even those beneficiaries who do not exhaust their inpatient benefits can incur sizable costs. For example, the deductible and coinsurance for a beneficiary who uses 90 days of inpatient hospital benefits in 1987 will be about \$4,400. Moreover, because of cost sharing and benefit limitations, expenses incurred under Part B could be very large by the time a patient reaches the level of paying inpatient hospital coinsurance.

A further Medicare benefit limitation is the Part B provision that allows physicians to accept or reject government reimbursement rates as full payment for covered services. Physicians who reject assignment may charge patients more than the Medicare-approved amount. In an effort to increase assignment of Medicare claims, the Congress established Medicare's participating provider program effective July 1984. Physicians who participate in the program agree to accept assignment of all Medicare cases. Nonparticipating physicians can accept assignment on a case-by-case basis. To encourage enrollment in this program, HHS publishes directories naming participating physicians.

In May 1986, Medicare reimbursement rates for participating physicians were increased, while rates for nonparticipating physicians were frozen through January 1987. Effective January

Table 28. Medicare Part A and Part B Deductibles and Premiums, 1971-1987

Year	Part A (Hospital Insurance) ^a		Part B (Supplementary Medical Insurance) ^b			
	Deductible (Per Stay)	Percent Change	Deductible (Per Year)	Percent Change	Premium (Per Year)	Percent Change
1971	\$60	—	\$50	—	\$67	—
1972	68	13.3%	50	*	70	3.6%
1973	72	5.9	60	20.0%	76	8.6
1974	84	16.7	60	*	80	6.3
1975	92	9.5	60	*	80	0.0
1976	104	13.0	60	*	86	7.5
1977	124	19.2	60	*	92	6.9
1978	144	16.1	60	*	98	6.5
1979	169	17.4	60	*	104	6.1
1980	180	6.5	60	*	115	10.3
1981	204	13.3	60	*	132	14.6
1982	260	27.5	75	25.0	146	10.9
1983	304	16.9	75	*	146	0.0
1984	356	17.1	75	*	175	19.7
1985	400	12.4	75	*	186	6.2
1986	492	23.0	75	*	186	0.0
1987	520	5.7	75	*	215	15.5

* = no change.

^a Part A copayments: equal to 1/4 of deductible for days 61 through 90, 1/2 of deductible for lifetime reserve days 91 through 150, and 1/8 of deductible for skilled nursing facility days 21 through 100.

^b Part B coinsurance: equal to 20 percent of Medicare-allowed charges.

SOURCE: U.S. Department of Health and Human Services, Health Care Financing Administration.

1987, yearly increases in physician charges will be limited.

Costs of unassigned claims remain substantial, however. Despite approximately 68 percent assignment of all 1985 physician charges, the Congressional Budget Office (CBO) estimates that billings to Medicare patients for unassigned physician claims exceeded \$2 billion in 1985.⁴ The proportion of these "balance billings" actually collected from beneficiaries is unknown, but physician assignment rates may significantly affect the elderly's out-of-pocket spending.

TIME SERIES DATA ON BENEFICIARY COST SHARING

The Commission examined total out-of-pocket costs as a percentage of Medicare Part A and Part B expenditures to determine the change in beneficiary liabilities as a share of total charges over time.

Table 29 shows the distribution of outlays and beneficiary cost sharing (deductibles and coinsurance) for Medicare inpatient hospital and total Medicare Part B expenditures. Combined inpatient and Part B cost-sharing obligations rose from 13.5 percent of Medicare expenditures in fiscal year 1978 to 14.6 percent in fiscal year 1984.

Beneficiary cost sharing for inpatient care grew from 5.3 percent of total inpatient dollars in fiscal year 1978 to 8.0 percent in fiscal year 1984. Out-of-pocket expenditures for inpatient care grew over this period because of substantial increases in the inpatient deductible.

Cost sharing for Part B services fell from 28.7 percent to 25.4 percent of expenditures during this period. There are two reasons for this decline. The Part B deductible remained constant over the period except for a \$15 increase in 1982. The Part B premium did not change for

Table 29. Cost-Sharing Obligation as a Percent of Medicare Inpatient and Part B Expenditures, Fiscal Years 1978-1984*

Fiscal Year	Total Inpatient Expenditures* (Billions)	Beneficiary Share (Percent of Total)	Total Part B Expenditures+ (Billions)	Beneficiary Share (Percent of Total)	Inpatient and Part B Cost Sharing (Coinsurance and Deductibles)	
					(Billions)	(Percent of Total)
1978	\$17.7	5.3%	\$9.6	28.7%	\$3.7	13.5%
1979	20.3	5.2	11.4	27.5	4.2	13.2
1980	24.0	6.7	13.8	26.3	5.2	13.8
1981	28.4	6.6	16.6	25.5	6.1	13.6
1982	33.8	7.4	19.9	25.6	7.6	14.2
1983	39.4	7.7	23.5	25.6	9.0	14.4
1984	42.4	8.0	26.1	25.4	10.0	14.6

* Excludes coinsurance for skilled nursing facilities, which represents less than 2 percent of Medicare cost sharing in fiscal year 1984.

+ Includes Medicare payments and beneficiary deductible and coinsurance.

SOURCE: ProPAC estimates based on data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

benefit periods 1983 through 1986; therefore, premiums did not increase as dramatically as overall program growth.

In addition to coinsurance and deductible costs, out-of-pocket expenditures include costs for the difference between the billed and allowed amount. The claims affected are those that are reimbursed on the customary, prevailing, and reasonable basis. Table 30 shows the dollar and percent reduction for Part B ap-

proved claims submitted for fiscal years 1978 through 1984.

The reduction is the difference between the billed charges and the amount Medicare allows. Medicare pays 80 percent of the determined allowed amount of a claim. When a provider does not take assignment, the beneficiary is responsible for the difference between the submitted bill and the determined allowed amount.

Table 30. Medicare Part B Reductions and Total Part A and Part B Out-of-Pocket Costs, Fiscal Years 1978-1984*

Fiscal Year	Total Charges* (Billions)	Reduction (Percent of Charges)	Assignment Rate (Percent)	Unassigned Dollars (Billions)	Out-of-Pocket Costs+	
					(Billions)	(Percent of Total)
1978	\$ 9.4	19.2%	49.6%	\$0.9	\$4.6	15.8%
1979	11.0	20.4	50.7	1.1	5.3	15.6
1980	13.7	22.3	51.3	1.5	6.7	16.4
1981	16.6	23.3	52.9	1.8	7.9	16.2
1982	20.3	23.8	53.8	2.2	9.8	16.8
1983	24.3	23.2	55.3	2.5	11.6	16.9
1984	27.2	24.2	57.7	2.8	12.8	17.1

* Total for covered charges that are determined by the prevailing, customary, and reasonable charge basis.

+ Include Medicare inpatient, Part B coinsurance and deductibles, and unassigned Part B balance billings.

SOURCE: ProPAC estimates based on data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

The reduction from billed to allowed amounts grew as a percent of charges from 19.2 percent in fiscal year 1978 to 24.2 percent in fiscal year 1984. The assignment rate based on charges also increased, from 49.6 percent in fiscal year 1978 to 57.7 percent in fiscal year 1984.

Despite increases in the assignment rate, beneficiary liability from unassigned claims increased about 195 percent between 1978 and 1984, from approximately \$906 million to \$2.7 billion. It is unknown, however, just how much of this incurred liability is actually collected. Total out-of-pocket obligations (which include inpatient and Part B cost-sharing dollars, and Part B charges above the approved rates for Part B) were 15.8 percent of total revenues in 1978 and 17.1 percent in 1984.

The modest increase in the share of costs beneficiaries bear masks the dramatic increase in out-of-pocket expenditures per enrollee over the six-year period. Out-of-pocket expenditures per enrollee grew 150 percent between 1978 and 1984, from \$171 to \$428 (see Table 31).

Table 31. Medicare Beneficiary Liability for Inpatient and Part B Services per Enrollee, Fiscal Years 1978 and 1984

Source of Liability	Beneficiary Liability		Percent Increase
	1978	1984	
Total charges	\$1,172	\$2,666	—
Total liability	171	428	150%
Inpatient hospital (coinsurance deductible)	35	113	224
Part B coinsurance and deductible	102	221	116
Unassigned claims	34	93	175

SOURCE: ProPAC estimates based on data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

In addition, some beneficiaries incur expenses for services not covered by Medicare or for serv-

ices with limited coverage, most notably long-term care. Medicare covers only the first 100 days after an inpatient hospital discharge. To qualify for coverage, patients must meet certain guidelines. Eligibility for Medicaid coverage is restricted to low-income or medically indigent patients.

While most of the elderly do not need long-term care, HHS estimates that daily activities are limited for 13 percent, or 3.6 million elderly people, living at home. Another 5 percent are in nursing homes at any given time, and the lifetime risk of entering a nursing home is about 20 percent. Long-term care costs can be substantial: the average cost of a full year of nursing home care in 1986 was approximately \$22,000.⁵

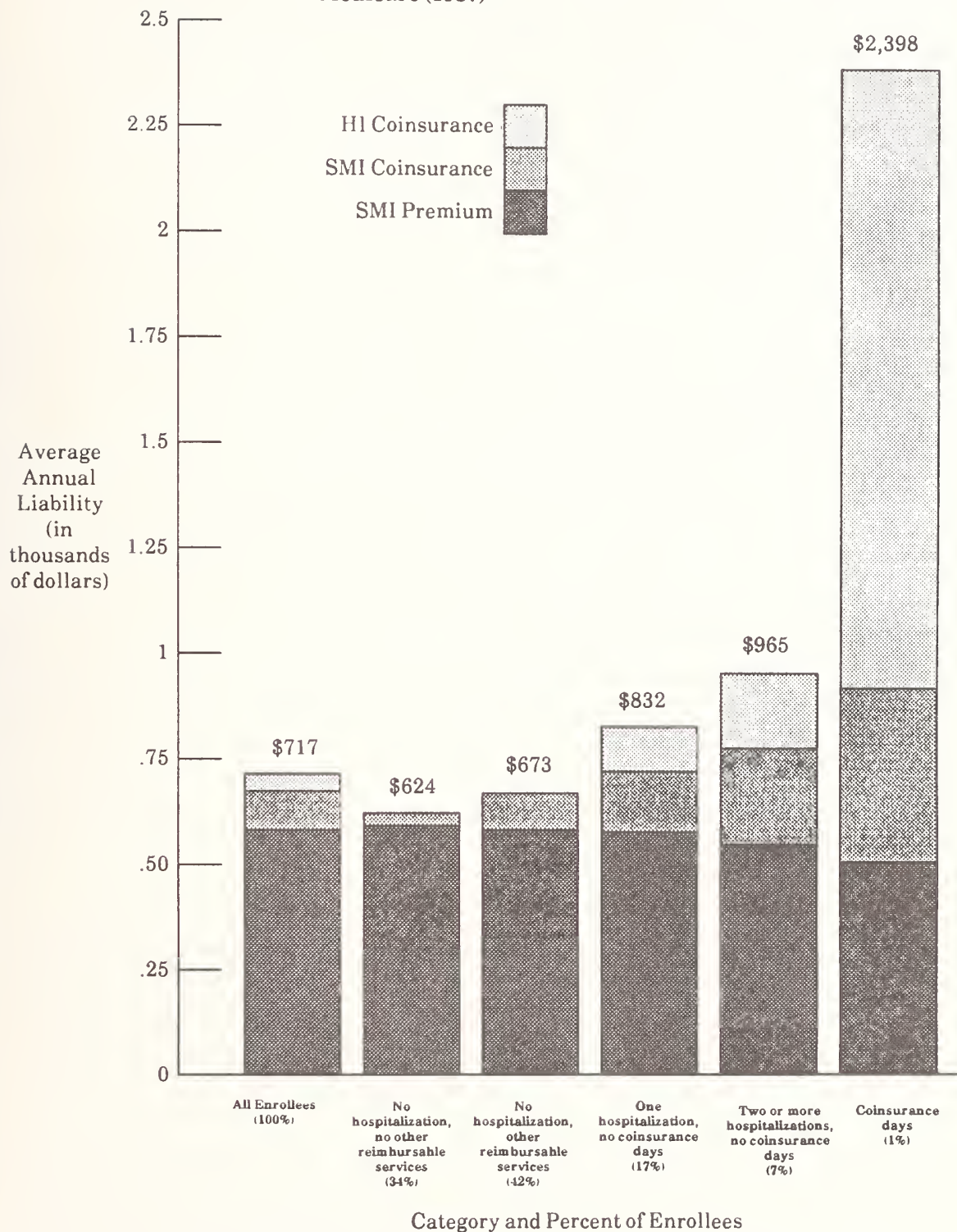
To summarize, the increase in Medicare Part A coinsurance and deductible obligations as a share of Medicare expenditures is largely offset by the decrease in Part B cost sharing as a percent of Part B expenditures. The result is a modest overall increase in out-of-pocket costs as a share of total Medicare expenditures. Medicare out-of-pocket costs per enrollee, however, have increased significantly—150 percent between fiscal year 1978 and fiscal year 1984.

These figures may actually understate Part B liability because they do not consider the following out-of-pocket costs:

- Part B premiums, \$214.80 in calendar year 1987, and
- Costs for noncovered services such as out-of-hospital drugs, dental care, hearing aids, and podiatric care.

CBO has estimated the average liabilities enrollees face for acute care services in 1987 (see Figure 5).⁶ Average Part A and Part B cost sharing for the elderly with one hospitalization is estimated to be \$832. For the 7 percent of enrollees with multiple admissions during the year, the average payment is \$965. Older enrollees are more likely to have multiple admissions and thus are at greater risk of incurring high cost-sharing expenses. CBO estimates that 11 percent of enrollees 85 and older could be hospitalized more than once in 1987, compared with 6.4 percent of those 65 to 74.

Figure 5. Projected Average Liabilities of Aged Medicare Beneficiaries Due to Premiums and Cost Sharing Under Medicare (1987)*



* Projections are based on acute care costs only. Not included are costs for SNF stays beyond 100 days or other long-term care costs.

SOURCE: Congressional Budget Office post-COBRA projections based on the 1981 Medicare History File.

THE ROLE OF PRIVATE INSURANCE FOR THE ELDERLY

In general, because the copayment (deductible and coinsurance) requirements under Medicare are linked to the use of services, sicker beneficiaries build up higher cost-sharing bills than their healthier counterparts. It is difficult for elderly people to predict whether they will incur catastrophic out-of-pocket costs. To reduce their liability risks, many purchase private insurance to supplement their Medicare coverage.

Extent of Supplemental Coverage

In 1984, between 64 and 75 percent of the noninstitutionalized elderly (16 to 19 million people) had some type of supplemental insurance coverage.⁷ Another 8 to 13 percent of the elderly had both Medicare and Medicaid coverage-coined "crossover" coverage.⁸ Although supplemental insurance benefits vary, individual or group Medigap insurance was the most common type of coverage.

Group policies, which usually provide more comprehensive benefits than individual plans, are often a continuation of employer or union health insurance. Medicare beneficiaries who are younger, have higher incomes, live with their spouses, or are employed are more likely to have group insurance. Beneficiaries with individual policies have higher incomes and are healthier than beneficiaries with no supplemental coverage.⁹

According to a 1985 American Association of Retired Persons Gallup survey, former employers paid some, if not all, supplemental insurance premiums for about 40 percent of all retirees. This percentage may be misleading, however, because it does not reflect the amount of cost sharing required under the group policy.

Increasingly, employers are introducing cost-sharing provisions into health insurance coverage to contain rising employee health benefit costs. A survey of more than 1,000 companies showed that in 1985, 63 percent of the firms had a deductible for inpatient hospital services, while only 30 percent required such payment in 1982.¹⁰

Since employers are requiring more cost sharing, future health insurance coverage is likely to be less extensive for elderly employed people and for retirees who continue group coverage. Proposed accounting requirements issued by the Financial Accounting Standards Board may require employers to cite employee and retiree health insurance liabilities in annual reports. This may also influence the coverage available to retirees.

Insurance Available to Medicare Beneficiaries

The private insurance available to Medicare beneficiaries varies considerably. In addition to Medigap, other types of insurance purchased by enrollees include HMOs and competitive medical plans (CMPs), indemnity plans, dread disease insurance, and major medical plans. The key features of these plans are summarized below. Medigap policies, which are directly linked to the Medicare benefit structure, are fully discussed because they are the most widely purchased type of supplemental coverage.

Health Maintenance Organizations and Competitive Medical Plans—Health policies that provide many medical services after a fixed or capitated annual fee has been paid. There are detailed statutorily based requirements governing Medicare's enrollment in HMOs and CMPs. Many of the elderly may not have easy access to HMOs and CMPs due to limited open enrollment periods, distance, and age restrictions.

Indemnity Plans—Policies that pay a specified dollar amount, such as \$50 or \$100, for each day in a hospital or skilled nursing facility. The fixed benefit is usually less than the actual charges. In addition, because benefits are linked to the number of days in a hospital or SNF, they offer no protection against large medical bills for noninstitutional care.

Dread Disease Insurance—Policies that pay a specified dollar amount for medical expenses associated with a specific disease. These include, for example, policies that cover care related to cancer or heart attacks.

Major Medical Plans—Policies that pay a proportion of large medical bills after an initial deductible is met. Typically, the initial deductible ranges from \$500 to \$1,000.

Medigap Insurance

Most Medigap plans cover Medicare's deductible and coinsurance requirements, but many do not cover physician charges above Medicare-allowed amounts. Medigap insurance payments are usually based on Medicare-approved amounts or on the company's usual, customary, and reasonable (UCR) fee screens. UCR amounts are generally higher than Medicare payments, but lower than actual charges. Therefore, beneficiaries could be liable for out-of-pocket costs on unassigned claims even if they have supplemental insurance.

Medigap policies that extend benefits to non-Medicare covered services, such as outpatient drugs or dental care, are usually offered as comprehensive plans. They are, of course, more costly than standard Medigap policies.

Various observers have suggested that the government, rather than the private sector, should fill in the gaps in Medicare coverage. Several legislative proposals have been made seeking to minimize health expenditures by the elderly. The issue of catastrophic illness was the topic of an HHS panel that recently reported to the president. Summaries of these legislative proposals and the HHS report are included in Appendix B.

Medigap Benefit Requirements—Concern over the appropriateness of benefits available to individual purchasers of Medigap insurance led to a series of congressional hearings in 1978. The hearings revealed that a significant portion of the \$4 billion paid in premiums in 1977 went toward the purchase of multiple and duplicative Medigap policies. Many of these policies offered beneficiaries little or no additional coverage to Medicare. Sales and marketing abuses were also discovered in these investigations.

The serious and widespread problems in the Medigap marketplace prompted the enactment of the Baucus amendment (Section 1882 of Title XVIII of the Social Security Act). The Baucus

amendment mandates minimum standards for the sale and marketing of certified Medicare supplemental insurance.¹¹ The minimum standards are based on a model developed by the National Association of Insurance Commissioners.

All the provisions under the Baucus amendment apply only to products marketed as Medicare supplemental policies. The provisions do not apply to hospital indemnity, major medical, and dread disease insurance. In addition, only policies sold after July 1, 1982, must meet these standards.

The General Accounting Office (GAO) released a report on Medigap insurance in October 1986. It indicated that the Baucus amendment, along with state efforts, appeared to protect the elderly against substandard Medigap policies and to provide them with information on how to select Medigap policies. GAO made no recommendations based on this study, since it found that 137 of the 142 policies sampled exceeded many of the Baucus amendment minimum standards.

However, while the Baucus amendment increased protection against substandard and overpriced policies, GAO found that the policies on average yielded low rates of return to beneficiaries. The law defines expected minimum levels of benefit payments, called loss ratios. Medigap policies sold to individuals should anticipate a return in benefits of at least 60 percent of the premiums collected.

In 1984, a person received 60 cents in benefits for each \$1 in premiums paid to the commercial health insurer for private nongroup Medigap policies. This compares with 90 cents in benefits for every \$1 in premiums for health policies sold to large companies for active workers. While most policies had loss ratios below the Baucus amendment targets, Blue Cross/Blue Shield plans and the Prudential Life Insurance Company—policies most commonly purchased—had payouts in benefits of 81 percent and 78 percent, respectively.

Ownership and Characteristics of Medigap Policies—Information about the extent of own-

ership and the characteristics of Medicare supplemental policies is available from consumer and industry surveys. HCFA and SRI International, a private research firm, conducted a six-state survey of Medicare beneficiaries in 1982. The survey found that people who need supplemental coverage the most because they cannot afford the costs of major illnesses are the least likely to have it. Important determinants of insurance coverage were income, education, race, and self-perceived health status.

Respondents cited an inability to afford private insurance as the primary reason for not having supplemental health coverage. Some of those in low-income groups and in poor health are able to rely on Medicaid to pay for most of their medical bills. (Medicaid coverage for the elderly is discussed later in this chapter.)

The survey also found that Medicare supplemental insurance was the most common type of policy owned, followed by major medical and hospital indemnity policies. Most supplemental policies provide comprehensive coverage for Medicare copayments. More than 95 percent of all such policies in the six study states, for example, cover the initial Part A deductible and the daily coinsurance payment during days 61-90. Few supplemental policies provide coverage for needed services and products that Medicare does not cover.

Blue Cross and Blue Shield Association (BC/BS) recently completed a survey of Plan Medicare supplementary insurance products. Nationally, BC/BS plans underwrite individual, group, and carve-out arrangements to supplement Medicare coverage for more than 9 million beneficiaries—a significant proportion of the estimated 16 to 19 million elderly who are covered by some type of supplemental insurance.¹² Approximately 32 percent of BC/BS supplemental policy enrollment is in group and carve-out programs. The survey findings were similar to the GAO report in that 55 of 59 responding plans offer coverage that meets or exceeds the Baucus amendment's minimum standards.

Medigap Premiums—Premiums for Medigap coverage vary greatly within states and across the country. For example, premiums in New

York state for 1986 range from \$119 to \$1,003 and in Wisconsin, from \$152 to \$1,578.¹³ The age of the policy holder and the health status of the individual are the two primary factors responsible for variations in premiums. Other factors include:

- Health care cost levels,
- Scope of benefits and type of coverage—group versus individual,
- Use of services by enrollees,
- Sex of policyholders, and
- State regulatory environments.

In the years that PPS has been in effect, premiums have not increased greatly for some subscribers. The BC/BS survey reports that more than 3 million Medicare supplemental policy subscribers received a rebate, freeze, or premium reduction in 1985. This is surprising in light of the over 35 percent increase in the inpatient hospital deductible since 1984. The inpatient hospital deductible is one of the “gaps” usually covered by Medigap insurance. Other effects, however, have apparently offset the increases in the hospital deductible. Reduced utilization due to PPS, for example, has allowed many Medigap insurers to keep down premium prices. In addition, some states regulate premium increases so that other policies may essentially be subsidizing Medigap policies.

AGED BENEFICIARIES WITHOUT PRIVATE SUPPLEMENTAL COVERAGE

Despite the recent leveling off of premiums and the widespread ownership of supplemental coverage, an estimated 20 percent of the elderly—5 million people—still have no insurance protection other than Medicare. Data from the 1980 National Medical Care Utilization and Expenditure Survey and the 1982 HCFA-SRI study suggest that the elderly with lower incomes and greater health care needs are the most likely to rely solely on Medicare coverage.

The Congressional Budget Office has estimated out-of-pocket spending by the Medicare-only population (see Figure 6) compared with out-of-pocket costs by beneficiaries with supplemental insurance (see Figure 7) for calendar year 1987.¹⁴ Beneficiaries with supplemental in-

surance will spend an average \$1,103 out-of-pocket for premiums and costs not covered by their Medicare or Medigap insurance.

These beneficiaries have greater average out-of-pocket expenses than the Medicare-only population because they use medical care more heavily and must absorb some of the administrative costs of supplemental insurance. Differences in utilization suggest that Medicare cost sharing is a barrier to needed services or that people with supplemental insurance use some unnecessary services.

The protective role of Medigap insurance occurs with high use of services (see Figure 7). According to CBO estimates, the distribution of out-of-pocket expenses for Medigap owners ranges from \$888 for the lowest use of services to \$2,004 for the highest use category. In contrast, the range is from \$299 to \$10,636 for people covered only by Medicare.

AGED BENEFICIARIES WITH MEDICAID AS A MEDICARE SUPPLEMENT

Enrollees whose incomes are low enough to qualify for supplemental security income (SSI) cash benefits may become eligible for Medicaid. In states with programs for the "medically needy," the elderly who have incurred high out-of-pocket health costs may also qualify for Medicaid coverage.

Although the poverty rate among the elderly declined from 1969 to 1984, a large share had incomes just above the poverty line. In 1984, 8.8 percent of the elderly—about 2.4 million people—had incomes between 100 percent and 125 percent of the Federal poverty line, compared with 4.5 percent of the nonelderly.¹⁵ With Medicaid coverage, beneficiaries face little risk of high out-of-pocket expenses because:

- Medicaid generally pays for the Part B premium and Medicare's cost-sharing requirements,
- Physicians may not bill Medicaid patients for additional charges; they must accept the Medicaid fee as full payment, and

- Many state Medicaid programs provide additional benefits, such as prescription drugs and extensive long-term care coverage.

Due to differences in state eligibility standards, however, Medicaid covers less than half of the poor elderly. About 64 percent of the poor elderly were not covered by Medicaid in 1984.¹⁶

EFFECTS OF SITE SUBSTITUTION

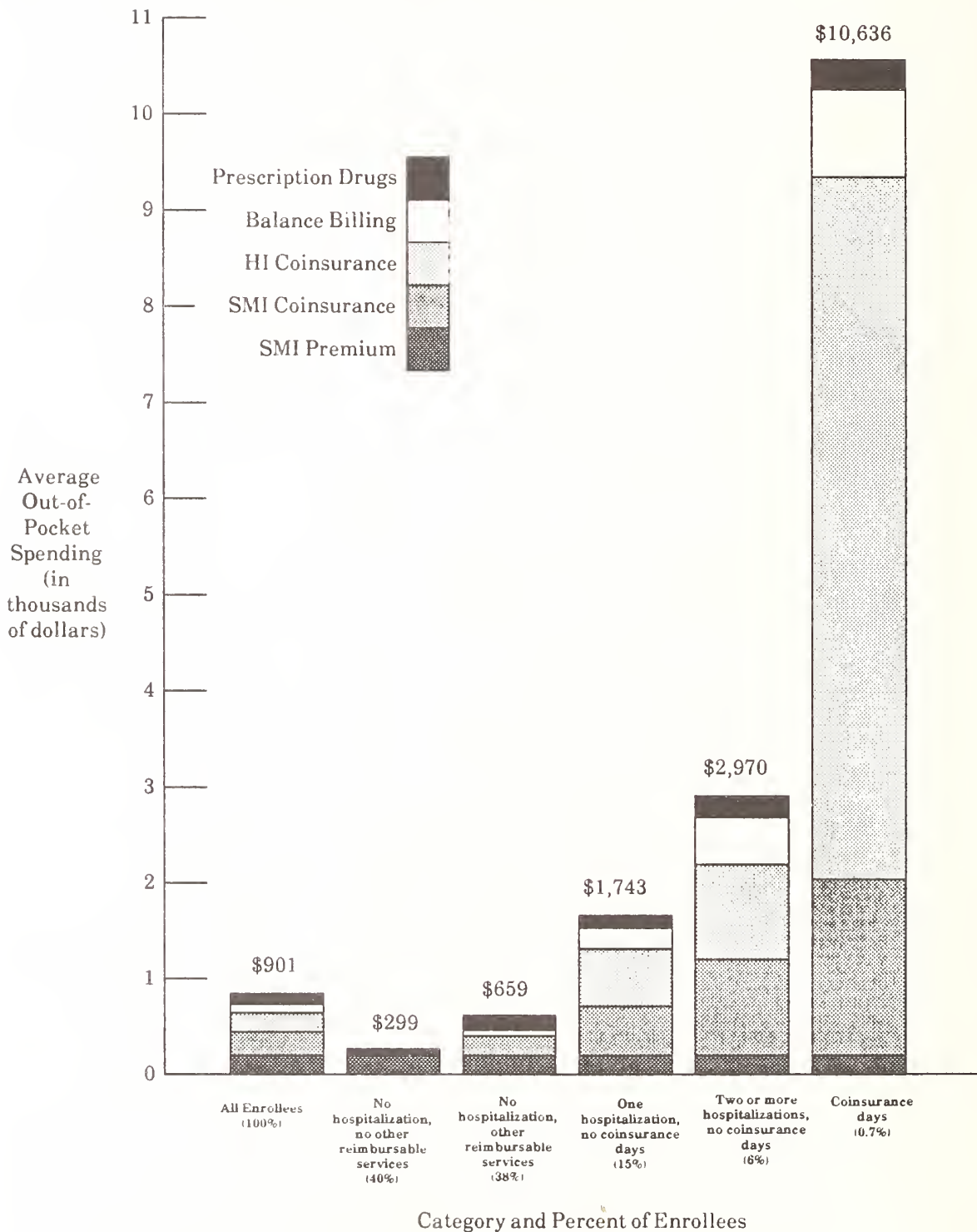
PPS incentives to shift services from the inpatient hospital to ambulatory settings and to discharge patients after shorter hospital stays may affect beneficiary out-of-pocket spending. Because the extent of Medicare coverage varies by place and type of treatment required, coinsurance obligations for a service can change depending on where that service is rendered.

This shifting may result in a particular service not being covered by Medicare at all, in which case the beneficiary is responsible for the entire cost of the care. Or, if a particular service is covered, there may be certain dollar or day limits. These limits are tied to varying coinsurance requirements on the part of the beneficiary. The effects of shifting on beneficiary liability then depend on the place and type of service received.

Although data on the overall effects of PPS on beneficiary liability are not available, some broad generalizations can be made. When a surgery is performed in the outpatient area rather than the inpatient hospital setting, beneficiary cost-sharing responsibilities for the facility charges are usually less. This would probably be true for medical treatment performed in the outpatient setting as well.

On the other hand, when a beneficiary is treated as an inpatient but discharged earlier for further outpatient treatment, the patient must bear the cost of coinsurance for any outpatient facility charges. The coinsurance is in addition to the inpatient hospital deductible. Furthermore, some services may not be covered in the outpatient setting, in which case the beneficiary must pay all the charges.

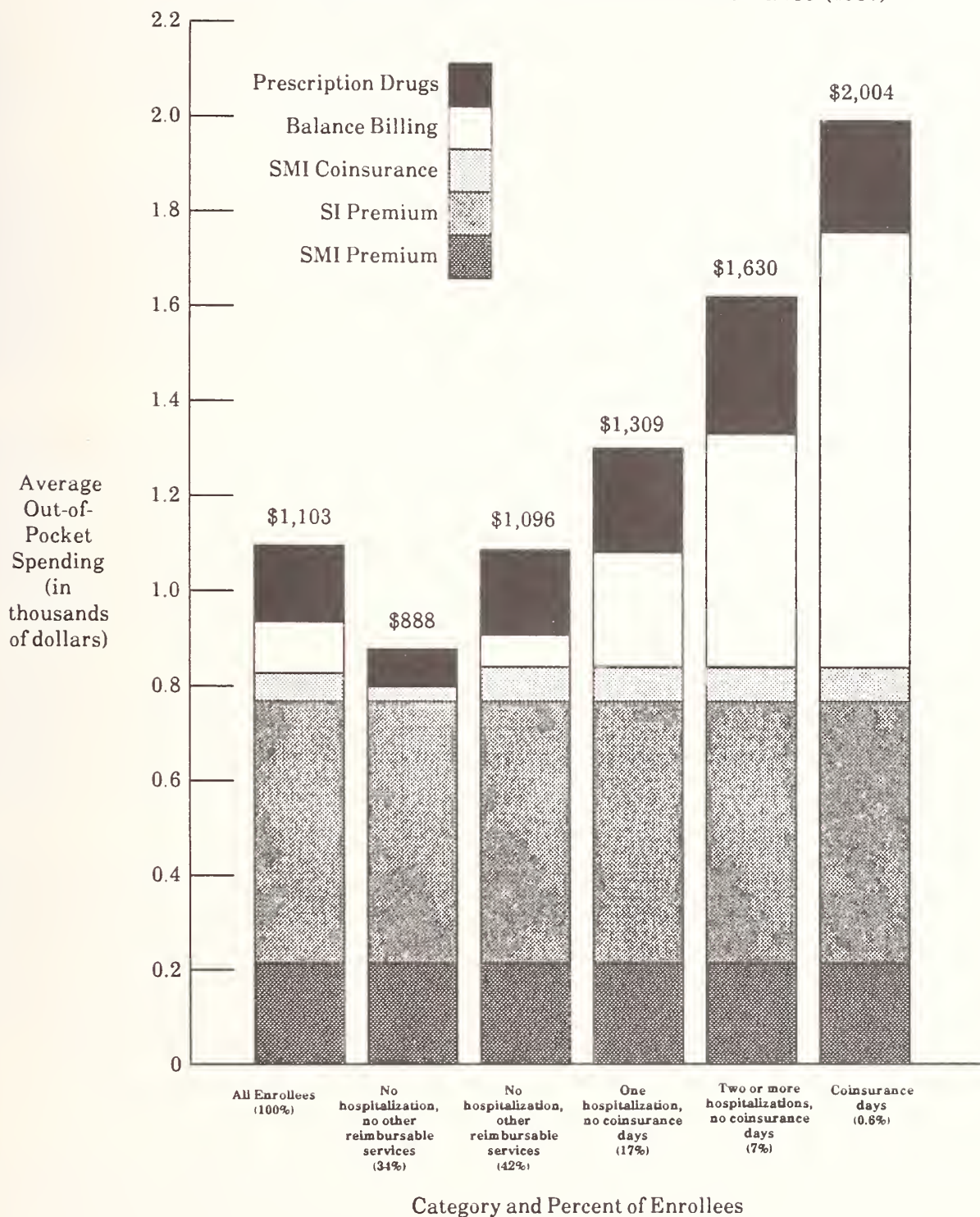
Figure 6. Projected Average Out-of-Pocket Spending by Aged Medicare Beneficiaries Without Private Insurance or Medicaid (1987)*



* Without private insurance or Medicaid eligibility, 20 percent of the aged.

SOURCE: Congressional Budget Office post-COBRA projections are based on the 1981 Medicare History File and 1980 National Medical Care Utilization and Expenditure Survey.

Figure 7. Projected Average Out-of-Pocket Spending by Aged Medicare Beneficiaries with Private Insurance (1987)*



* With private insurance, but without Medicaid; approximately 70 percent of the aged. The remaining 10 percent of the aged who are Medicaid-eligible are assumed to have minimal out-of-pocket expenses.

SOURCE: Congressional Budget Office post-COBRA projections are based on the 1981 Medicare History File and 1980 National Medical Care Utilization and Expenditure Survey.

The following examples support these generalizations.

Out-of-pocket costs for surgical procedures performed in inpatient hospital and outpatient settings are illustrative. For treatment in an inpatient setting, a beneficiary must pay a \$520 deductible in calendar year 1987. Medicare provides full coverage for the first 60 days of hospitalization.

A beneficiary who has surgery in an outpatient hospital setting is responsible for 20 percent of the facility's charges. Charges for surgery would have to be at least \$2,600 for a beneficiary to incur more than \$520 in coinsurance. This is unlikely for routine operations.

In fiscal year 1987, for instance, the national average facility charge for routine cataract surgery in a hospital outpatient department is \$1,575.¹⁷ (Although some cataract cases probably could exceed \$2,600, data are not available to determine how often this occurred.) This example excludes Part B calculations because it is difficult to associate all the charges related to Part B with a particular surgery.

While outpatient surgery and medical treatment usually entail less cost sharing of facility charges, this is not the case when beneficiaries are treated as inpatients but discharged earlier for additional outpatient care. Patients receiving parenteral antibiotic treatment provide an illustration. (These include people with osteomyelitis, DRG 238; endocarditis, DRG 126; and bacteremic pyelonephritis, DRGs 320-322.) In most cases, these patients no longer need skilled nursing care or diagnostic treatment. If discharged after less than two weeks of care, the patient would require, on average, antibiotic therapy for two or three more weeks. Therapy can be provided in a clinic or at home.

If the patient went to a clinic for therapy, out-of-pocket costs would be about 20 percent of the facility's charges. These costs would be in addition to the \$520 inpatient deductible. If the patient received therapy at home, the likelihood of qualifying for home health services would be slim. The patient would probably not be considered homebound, which is a requirement for

home health care coverage. Under this scenario, the patient would have to bear the full cost of therapy plus the cost of the skilled nurse to administer it. Therefore, whether the therapy is provided in the clinic or at home, the patient's costs are greater than if it were provided entirely on an inpatient basis.

A final example illustrates how earlier discharge to a skilled nursing facility or to the home with possible home health care coverage affects beneficiaries' out-of-pocket costs. This situation exemplifies Part A to Part A shifting—that is, shifting from Medicare inpatient hospital outlays to skilled nursing facility or home health care coverage under the Hospital Insurance Trust Fund.

If SNF services after a hospital discharge have been approved, Medicare will cover the total amount for the first 20 days of stay. For days 21 through 100, the beneficiary is responsible for \$65 coinsurance per day, or one-eighth of the inpatient hospital deductible in calendar year 1987. After day 100, the beneficiary is expected to cover all of the SNF's charges.

Patients who are discharged relatively early from the hospital may be more likely to stay in the skilled nursing facility longer than 20 days and thus be liable for coinsurance. They may also be more likely to stay beyond Medicare's 100-day limit.

Medicare provides full coverage for home health services for intermittent skilled nursing care, physical therapy, and speech therapy. But requirements for coverage are stringent. To qualify, for example, a physician must certify that the beneficiary is homebound. A person returning home from the hospital does not automatically qualify for medical coverage.

BENEFICIARY LIABILITY AND PPS

Medicare benefits could be restructured to make them more consistent with PPS incentives. Although the Medicare benefit structure covers hospital acute care services most extensively, beneficiaries are still subject to major out-of-pocket expenses for this inpatient care.

Enrollees with long hospitalizations and those who exhaust their inpatient hospital benefits are especially vulnerable to high cost-sharing bills. In general, because the copayment requirements under Medicare are linked to the use of services, sicker beneficiaries build up higher cost-sharing bills than their healthier counterparts.

To reduce liability risk, many elderly beneficiaries purchase private insurance that supplements Medicare. About 20 percent of these beneficiaries do not have supplemental insurance coverage. They tend to be sicker and poorer than the rest of the Medicare population.

From another perspective, there has been a modest overall increase in out-of-pocket costs as a share of total Medicare expenditures. This is misleading, however, because beneficiary costs per enrollee have grown significantly—150 percent between fiscal year 1978 and 1984.

PPS incentives to shift services from the inpatient hospital to ambulatory settings and to discharge patients after shorter hospital stays may affect beneficiary out-of-pocket spending. The effects of such shifting depend on the place and type of service received.

Notes to Chapter 4

1. D.R. Waldo and H.C. Lazenby, "Demographic Characteristics and Health Care Use and Expenditures by the Aged in the United States: 1977-1984," *Health Care Financing Review* 6(1):1-29, Fall 1984.
2. Anyone who is 65 or disabled, and who qualifies for supplemental security income cash benefits, is eligible for Medicare benefits. There are also special provisions relating to coverage under Medicare for end stage renal dialysis.
3. The details of coverage under Medicare Part A refer to covered services per benefit period. A new benefit period begins only after the patient has been out of an institution for 60 days.
4. S. Christensen, Congressional Budget Office, Human Resources Division, personal communication, Washington, DC, June 1986.
5. U.S. Department of Health and Human Services, *Catastrophic Illness Expenses, Department of Health and Human Services Report to the President*, unpublished report, Washington, DC, November 1986.
6. These projections of average liabilities per enrollee are overstated because they are based on an inpatient hospital deductible for 1987 of \$572. The Congress subsequently set the 1987 deductible at \$520.
7. The exact number of supplemental insurance policyholders is not known. Estimates were obtained from the following sources: Health Insurance Association of America, 64 percent; Blue Cross and Blue Shield, 66 percent; House Select Committee on Aging, 70-75 percent; Congressional Budget Office, 72 percent.
8. CBO estimates that 8 percent of the elderly have crossover protection. The 1980 National Medical Care Utilization and Expenditure Survey reports that 13 percent of the aged Medicare population have Medicaid coverage.
9. S. Garfinkel and L. Corder, Supplemental health insurance coverage among aged Medicare beneficiaries, *National Medical Care Utilization and Expenditure Survey*, Series B, Descriptive Report No. 5, DHHS Pub. No. 85-20205, Health Care Financing Administration (Washington, DC: U.S. Government Printing Office, August 1985).
10. Hewitt Associates, *Salaried Employee Benefits Provided by Major U.S. Employers in 1985* (Lincolnshire, IL: Hewitt Associates, March 1986).
11. Minimum benefit standards under the Baucus amendment include coverage for:

Part A:
 - Copayment for days 61-90
 - Copayment for lifetime reserve days, 91-150
 - Payment for 90 percent of an additional 365 days after lifetime reserve days are exhausted
Part B:
 - Payment of the 20 percent coinsurance on Medicare allowed amounts after a \$200 deductible
 - Payment of the 20 percent coinsurance up to an annual maximum of \$5,000
Other provisions of the law include:
 - Maximum six month preexisting condition limitations
 - Minimum loss ratios: 75 percent in group products; 60 percent in non-group products
 - Delivery of a buyer's guide and outline of policy
 - "Free look" periods: 30-day cancellation period for mail order policies and 10 days for other policies

12. Carve-out arrangements are benefit programs in which retirees receive the same medical benefits as those provided to active employees. This coverage combines Medicare and employer-sponsored benefits, and is usually more comprehensive than standard Medicare supplements.
13. Premium information obtained from the 1986 New York and Wisconsin state insurance commission shopper's guides for Medicare supplement insurance.
14. These estimates are only for acute care costs. Not included are the costs for long-term care, which present the greatest financial risk for the elderly. The projections of average liabilities per enrollee are overstated because they are based on an inpatient hospital deductible for 1987 of \$572. The Congress subsequently set the 1987 deductible at \$520.
15. Nancy M. Gordon, assistant director for human resources, Congressional Budget Office, testimony at hearing on economic status and financial burden for health care of the elderly, before the Subcommittee on Health and the Environment, Committee on Energy and Commerce, U.S. House of Representatives, mimeo, Washington, DC, March 26, 1986.
16. Karen Davis, Ph.D., chairman and professor, Department of Health Policy and Management, Johns Hopkins School of Hygiene and Public Health, "Medicaid: Medigap for the Poor Elderly," testimony at hearing on economic status and financial burden for health care of the elderly, before the Subcommittee on Health and the Environment, Committee on Energy and Commerce, U.S. House of Representatives, mimeo, Washington, DC, March 26, 1986.
17. The national average facility charge for routine cataract surgery in a hospital outpatient department was \$1,415 in fiscal year 1984. The fiscal year 1984 average charge was adjusted by the hospital market basket to derive the fiscal year 1987 estimate.

Chapter 5

Financing and Delivery of Health Care Services

Financing and Delivery of Health Care Services

The growth of health care costs, especially hospital costs, has motivated state governments and private payers to try new financing arrangements. Following Medicare's lead, many states have adopted DRG-based payment systems. Private payers are increasingly involved in health maintenance organizations and preferred provider organizations. These new systems attempt to reduce the growth in expenditures by putting providers at risk for the cost of unnecessary care and inefficiency. The substitution of lower-cost alternate sites of care for inpatient hospital care is another important part of these cost-containment strategies.

USE OF DRGS BY OTHER PAYERS

About one-quarter of the states have implemented DRG-based payment systems, while private third-party payers have had less experience with DRGs. Payers that adopt such payment systems may find it necessary to modify the DRGs to meet specific needs and to serve particular population groups.

Use of DRG-Type Payment Systems by State Programs

Currently 13 states use DRG-type payment systems in their Medicaid programs. These states are: Michigan, Minnesota, Montana, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Utah, Washington, Connecticut, and New Jersey. The last two states have all-payer systems, in which all third-party payers are mandated to pay based on DRGs.

While these states continue to develop their own DRG-based systems, generally following Medicare's lead, in some areas they are using

unique and different approaches. States with DRG-type payment systems like Medicare pay for inpatient services at acute care hospitals on a prospective basis. Four of the states include all types of hospitals in the DRG payment system. The other nine states typically exclude long-term care, rehabilitation, psychiatric, and children's hospitals.

Eleven of the 13 states have adopted Medicare's DRG categories as units of cost and payment. However, Minnesota modified Medicare's Major Diagnostic Categories (MDCs) to create 35 diagnostic categories. South Carolina developed state-specific DRGs for 234 high-frequency diagnoses; for the remaining cases, six per-diem rates have been set. All 13 states apply state-specific weights to the standardized amounts to calculate payments.

Base-Year Costs—States' methodologies for developing base-year costs vary. Historical invoice data and claims files, either hospital-specific, within peer group, or within state, were used to determine average costs per discharge that are trended forward to account for inflation. States also vary in how they make adjustments to the average cost per discharge.

Setting Rates—States use various methods to calculate payments to individual hospitals. They reimburse hospitals on the basis of hospital-specific rates, peer group rates, statewide average rates or, in some cases, a blend of all three. The relative importance of the rates often changes over time, with increasing emphasis given to peer group and statewide rates. Many states add additional payments to hospital-spe-

cific prices per DRG for expenses such as capital or medical education.

Hospital Groupings—To adjust for variations in costs related to hospital characteristics, five states have chosen to group similar hospitals in “peer groups.” Payments to these hospitals are typically a blend of hospital-specific and peer group rates. In some cases, statewide average rates are also calculated as part of an individual hospital’s payment.

Additional Adjustments—States vary in how they adjust hospitals’ payments for costs related to capital, direct and indirect medical education, and variations in wages and salaries. Generally, states that reimburse on the basis of hospital-specific or peer group rates do not need to make additional adjustments.

Capital—Capital-related costs as defined by Medicare are typically added to the DRG payment. Many of the states appear to be waiting for Medicare’s decision on how to incorporate capital costs into the DRG payment system. A few states, however, have developed alternate methods for reimbursing capital costs. In Ohio, for example, capital allowances are based on the relationship between the hospitals’ inpatient capital-related costs and total inpatient costs in the base-year cost reports. Adjustments are made to account for committed capital-related costs, such as those for a significant renovation.

Medical Education—States either include medical education costs (direct and indirect) in their rates or add an amount to the DRG payment.

Wages and Salaries—Peer grouping and hospital-specific payments reduce the need to adjust for variations in wages and salaries within the state. All states adjust for inflation’s effect on wages and salaries. The development of these adjustments varies from state to state. In Michigan, for example, the adjustment is determined legislatively; in Montana, the Data Resources, Inc. market basket for current wages is used as an update factor.

Outlier Policy—Methods of paying for outlier cases also vary across states. A few of the states

have adopted Medicare’s outlier payment policies. Other states recognize either length of stay or cost outliers, but not both. In addition, some states recognize both high- and low-cost outliers. Three states apply special outlier policies to neonatal cases.

States’ levels of reimbursement for outliers vary considerably. While some states have adopted Medicare’s outlier thresholds, others have different outlier thresholds, use different payment levels, or have threshold specifications for several outlier types not designated in the Medicare program. Some states have burn and neonatal outliers as exceptions and pay 100 percent of additional costs if the costs exceed 150 percent of the DRG payment. Some states have upper limits for reimbursing hospitals for outlier cases. This limit is usually some percentage of billed charges.

Transfers—For cases in which the patient is transferred from one facility to another, states’ policies vary substantially. In some states, Medicare’s policy has been adopted. In other states, both the transferring and receiving hospitals receive a per-diem rate.

Uncompensated Care—While many of the states do not recognize uncompensated care in their rates, others make adjustments based on the hospital’s proportion of Medicaid or general assistance patients. For example, in Michigan a \$20 million set-aside is redistributed to hospitals based on their indigent volume. In Minnesota, if a hospital’s percentage of indigent patients exceeds 15 percent of total admissions, adjustments are made to the adjusted base-year cost per admission.

Rebasing and Recalibration—Rebasing policy (the development of new standardized amounts based on more recent data) varies from state to state. While certain states intend to rebase every two to three years, others have no well-defined policy. Most states are in the preliminary stages of development of recalibration policy (recalculation of the DRG relative weights).

Updates—For states that do not rebase annually, a method of updating DRG amounts for

inflation is required. Adjustment factors generally are based on changes in the hospital market basket in each state. In some states this update is modified by the state legislature to reflect state budgetary initiatives.

Use of DRGs by Third-Party Payers

Faced with decreasing admission rates and shorter lengths of stay, many hospitals have been willing to negotiate alternative payment arrangements with private third-party payers. This trend, coupled with private third-party payers' efforts to reduce expenditures, has led to the adoption of DRG-based payment, managed care, and capitation. Most of the use of DRGs by private payers is in conjunction with health maintenance organizations.

This section reviews the use of DRGs by Blue Cross/Blue Shield plans and other private third-party payers. The discussion will include determination of DRG rates, DRG classification and weights, adjustments, and outlier payments.

Use of DRGs by Blue Cross/Blue Shield Plans—Eleven Blue Cross/Blue Shield plans have implemented DRG-based payment systems for at least some of their inpatient admissions.¹ These plans differ in structure and vary in the degree to which they have adopted features of the Medicare prospective payment system. Descriptions of these plans reveal that they are similar to PPS in some respects but substantially different in others.

Determination of DRG Rates—Many of the BC/BS plans with fully implemented systems use peer groups in determining DRG rates. The plans vary in the specific criteria used to categorize hospitals, but all employ some combination of teaching status, size, and geographic location. A peer group average rate is calculated for each DRG based on charge data collected from the hospitals in that peer group. All the hospitals in a given peer group then receive the same payment or are subject to the same payment limit.

DRG Classification and Weights—While most plans use all 468 DRGs, some have found it more efficient to use only the higher-frequency DRGs. Some plans have varied the number of DRGs used by peer groups and by geographic

location (e.g., urban-rural). Hospitals are paid a percentage of charges for those cases that do not fall into a DRG.

Three plans use weights in their payment methodology. One plan uses the actual Medicare weights, but it will likely switch to hospital-specific or peer-group-specific weights after the first year of the program. The other two plans calculate a DRG weight using fiscal year 1985 charge data collected from the hospitals participating in their programs. The weight is then multiplied by a hospital-specific average charge per discharge to reach the payment amount.

One plan calculated a single DRG rate for each DRG using 1983-84 hospital charge data. In general, hospitals are paid the DRG rate, but adjustments are made in some instances. Another plan converted charges to costs by using a cost-to-charge ratio. It then calculated a single DRG-specific base rate that is adjusted for capital, teaching, and bad debt according to a weighted average for each.

Adjustments—The 11 BC/BS plans with DRG payment programs make limited adjustments for teaching, capital, and wage rate variation. Most of the plans indicated that any need for adjustments is obviated by using peer groups and hospital charge data in calculating the DRG payment. Grouping like hospitals limits the need for hospital-specific adjustments (e.g., teaching, wage rate variations).

Outliers—Most of the BC/BS plans have either cost or length of stay outliers. The outlier policies differ from those of Medicare's in three ways:

- Risk-sharing provisions,
- Payment recognized only for length of stay or for cost outliers (rather than both), and
- Use of high and low thresholds (rather than high only).

Two BC/BS plans have risk-sharing provisions. These provisions operate on a case-by-case basis and allow for both the hospital and the plan to share in gains and losses. Specifically, if the hospital's charges are higher or lower than

the DRG payment, the hospital and BC/BS share in the gains or losses.

Blue Cross/Blue Shield payment for length of stay is similar to Medicare's. However, while most BC/BS plans pay 100 percent of the per diem rate, Medicare pays only 60 percent. With BC/BS, if length of stay for a case falls below a threshold, the hospital payment is either the DRG amount or the amount actually charged, whichever is less.

The thresholds for cost outliers vary among plans. In addition to the DRG rate, one plan pays the difference between hospital charges and 2.25 times the DRG rate. Another plan has an "extraordinary case" policy. This policy will pay for 60 percent of the difference between the hospital's costs and the DRG payment, if costs are 150 percent greater than the DRG rate and the loss exceeds \$5,000 (after the risk-sharing provision).

A third plan that pays for length of stay outliers has a catastrophic policy based on charges. If a hospital's charges are three times the DRG rate, BC/BS will pay 90 percent of charges. One plan does not have an outlier policy. Because outliers were included in the calculation of the DRG rates, this plan believes there is no need for a separate outlier payment.

Changes in Reimbursement by Other Third-Party Payers—Use of DRG-based prospective payment is increasing among commercial insurers.² In Connecticut and New Jersey—the two all-payer states—reimbursement is based on DRGs. In all other states, private insurers have had varied success in contracting with hospitals to accept DRG payments. Because most of the insurers have relatively small market shares, their ability to institute DRG payments is limited; however, DRGs are often the starting point in insurers' contract negotiations with hospitals.

Several of the large insurers use DRGs for cost-containment analyses. A comparison of average costs per DRG among similar hospitals is used to discern whether an individual hospital's claim is out of line with comparable hospitals. In addition, the use of DRGs as negotiating

tools is becoming more prevalent. An insurer may select a limited number of high-frequency diagnoses for which it can calculate a DRG payment and use the DRG as a starting point in contract negotiations. While the majority of insurers use historical costs to calculate DRG payments, one opts to construct DRGs on the basis of reasonable charges for "normal use" of services.

In some cases, insurers have successfully contracted with hospitals to accept DRG payments. Two insurers contract primarily with hospitals in the context of preferred provider organization operations. Medicare DRG categories and weights are used. In one case, hospital-specific payment rates are based on the insurer's historical experience with the providers. Following analysis of hospitals' claims data, the insurer evaluates its experience with the hospitals and initiates negotiations with efficient providers for DRG reimbursement. In contrast, the other insurer solicits bids from hospitals in a particular geographical area. The insurer contracts with the providers whose bids would generate savings when compared with historical claims adjusted for inflation. Actual payments are based on a relative value scale.

Both insurers' outlier policies vary from Medicare policy. One insurer recognizes both high and low length of stay and cost outliers. For high length of stay outliers, the hospital's payment is the sum of the DRG payment and a per diem. For low outliers, payment is the lesser of charges or the appropriate DRG payment. The other insurer uses Medicare thresholds to identify outliers; however, payment for outliers is calculated differently. Instead of calculating a unique per diem for each DRG, a single composite per diem is added to the DRG payment for length of stay outliers.

In addition to pursuing the use of DRGs when feasible, insurers continue to adopt alternative financing approaches to limit hospital expenditures. PPOs, HMOs, and varied patient management programs continue to be pursued aggressively. One insurer offers patient utilization review plans to employers. These plans provide services including discharge planning and mandatory second opinions.

ALTERNATIVE DELIVERY SYSTEMS

Alternative delivery systems, such as health maintenance organizations and preferred provider organizations, are increasingly used as methods to control health care costs. Their growth is evident in enrollment figures and in the number of available plans.

Health Maintenance Organizations

As of December 1985, more than 21 million people were enrolled in an HMO (see Table 32). This represents a growth in enrollment of almost 26 percent over December 1984. Enrollment is expected to continue to increase. In 1980, 14.3 percent of hospitals had at least one contract with an HMO. By 1984, 23.4 percent of hospitals had signed contracts, and the percentage increased to 30.0 in 1985.³

This health care option is becoming available to a broader segment of the population. Forty-three states now host the headquarters of at least one HMO. The number of HMO plans increased from 337 in 1984 to 480 in 1985, an annual growth rate of over 42 percent.⁴ In the last six months of 1985, 99 new plans began operation. The increase in plans, however, does not necessarily reflect new organizations entering the field because one entity may sponsor several HMOs.

Medicare enrollment in HMOs has continued to grow. The Medicare risk contract program got under way in early 1985 through authorization from the Tax Equity and Fiscal Responsibility Act of 1982. Under the risk contract program, HMOs or competitive medical plans may enter into a risk contract arrangement with Medicare and receive a fixed fee for each enrolled beneficiary.

In June 1986, 630,000 beneficiaries were enrolled on a risk basis in 132 HMOs and CMPs. This was 5.8 percent more than in the previous month. Another 220,000 Medicare beneficiaries were enrolled in HMOs on a cost basis.⁵ About 813,700 beneficiaries were enrolled on a risk basis in 149 HMOs and CMPs by November 30, 1986. Another 103,280 beneficiaries were enrolled in 41 HMOs or CMPs on a cost basis. Enrollment on a risk basis is increasing by about 5 percent a month.⁶ During 1986, however, 19 HMOs or CMPs were either terminated from the Medicare program by HCFA or did not renew their contract to serve Medicare beneficiaries.

Preferred Provider Organizations

Preferred provider organizations are another type of health care provider and payer arrangement that has grown in importance over the past several years. PPOs typically establish a contractual relationship with providers to offer

Table 32. Growth in Health Maintenance Organizations, 1981-1985

	June 1981	June 1982	June 1983	June 1984	June 1985	December 1985
Enrollment						
Total (in thousands)	10,266	10,831	12,491	15,141	18,894	21,052
Percent change from prior year	12.8	5.5	15.3	21.2	24.8	11.4*
Number of plans						
Total	243	265	280	306	393	480
Percent change from prior year	3.0	9.1	5.7	9.3	28.4	22.1*
Number of new plans	20	38	24	40	92	99
Percent of total plans	8.2	14.3	8.6	13.1	23.4	20.6

* Reflects six-month data, June 1985 to December 1985.

SOURCE: *National HMO Census, 1985: Annual Report on the Growth of HMOs* (Excelsior, Minnesota: InterStudy, 1986)6.

services at a discounted price to a particular group of individuals, usually a firm's employees or a pension fund's clients.⁷

PPO enrollee statistics reflect how many people have the option to use PPO benefits rather than the number who actually elect to use them. Between late 1984 and mid-1985, the number of people eligible to use a PPO was estimated to have increased by four times, to approximately 5.75 million.⁸ A more recent estimate by the American Medical Care and Review Association (AMCRA) is that 28 to 30 million people had the option to use PPO services as of December 1986.⁹

AMCRA also estimates that in December 1986 there were 506 PPOs, 464 of which were fully operational. Most PPOs are sponsored by insurance carriers.

ALTERNATE SITES OF CARE

The types and number of sites of care providing alternatives to inpatient hospitalization or to some part of an inpatient stay have increased. Alternatives are receiving greater attention because of the cost-containment efforts of payers, including Medicare. Further, the growth reflects changing practice patterns associated with new technologies as well as changing preferences of consumers and providers.

Hospitals sponsor many of these alternatives, which may enable them to maintain their market share and revenue bases. Moreover, alternate sites of care generally are not as closely regulated as inpatient facilities. Table 33 shows the growth in hospital-sponsored alternatives. Other sponsors of these alternatives include health care provider organizations, such as physician group practices and nursing homes, as well as private investors. Furthermore, physicians' offices have increasingly become the site for tests and procedures formerly performed elsewhere, although these data are difficult to collect.

Increased Outpatient Visits

Since 1982, there has been an increase in the proportion of hospital services provided on an outpatient basis. This is because of declining

Table 33. Hospitals Providing Alternative Services (In Percent)*

Type of Service	Percent of Hospitals Providing Service		
	1980	1984	1985
Long-term care	9.4%	14.5%	17.4%
Home health	10.5	20.2	27.2
Hospice	5.8	9.8	11.7
Outpatient	NA	45.3	49.4
Ambulatory surgery	65.4	83.6	86.0

* Percent of 5,691 community hospitals; community hospitals defined as all non-federal short-term general and other special hospitals.

SOURCE: ProPAC analysis of American Hospital Association Annual Survey data.

inpatient admissions and growth in the number of outpatient visits. In a 1985 survey of 450 hospital administrators, 83 percent reported increased outpatient use in the preceding 12 months, compared with 70 percent who reported an increase in 1984.¹⁰ Since 1983, the percentage of hospital revenues generated by outpatient services has grown rapidly.

In addition to the growth of hospital-based outpatient treatment, there has been an increase in the number of facilities specifically designed to provide services on an outpatient basis. These facilities include, for example, diagnostic imaging centers, ambulatory care centers, and ambulatory surgery centers. They may be associated with a hospital, a physician group, or some other sponsor.

Diagnostic Imaging Centers—Diagnostic imaging centers provide diagnostic services for outpatients and inpatients. Some specialize in a specific technology, such as magnetic resonance imaging, while others specialize in specific conditions, such as cardiovascular problems or breast cancer. However, most provide a wide range of diagnostic services. In 1984, half of the country's 90 diagnostic imaging centers were associated with a hospital.¹¹ The number of these centers is expected to increase, although growth slowed in 1986.¹²

Ambulatory Care Centers—Ambulatory care centers (ACCs) are increasing rapidly, particularly in southern and western states.¹³ As Table 34 shows, between 1984 and 1985 the number of ACCs increased more than 30 percent, from 2,300 to 3,000. Patient visits to ACCs increased from 22 million in 1984 to 45 million in 1985.¹⁴ Initially providers of emergency services, ACCs are increasingly offering a range of primary care services in order to compete with hospitals and private practice physicians for patients.¹⁵

A recent survey of 212 ACCs found that over 27 percent were owned by physician corporations, 20 percent by non-physician corporations, 19 percent by hospitals, 13 percent by physicians, and the rest by other types of associations.¹⁶ Although ownership statistics vary, it is evident that hospitals have begun their own ACCs to maintain and develop their market shares.¹⁷

Ambulatory Surgery

In 1984, there were 330 freestanding surgery centers in the nation. By 1985, that number had grown to 459. About 3.4 percent of all surgical procedures were performed in these facilities in 1985, up from 2 percent in 1984.¹⁸

Ambulatory surgery is becoming increasingly important for hospitals. In 1980, 16 percent of all surgeries performed in hospitals were done on an outpatient basis. By 1984, this number had grown to 28 percent and by 1985, to 34 percent.¹⁹ Regardless of hospital size, there were significant increases in outpatient surgery revenues between 1983 and 1986, although increases were largest for hospitals with fewer than 200 beds (see Table 35).²⁰

Home Health Programs

The number of home health programs and expenditures for these services have increased in recent years. Originally, home health care provided basic nursing services. It has evolved to provide more complex services and procedures because of changing technology and a changing client population.²¹ Table 36 shows the increase in Medicare-certified home health agencies between 1978 and 1985. Overall, the number of certified agencies increased more than 100 percent.²²

Table 34. Growth in Ambulatory Care Centers and Patient Visits, 1982-1986

Year	Number of Ambulatory Care Centers	Patient Visits (Millions)
1982	600	4.8
1983	1,200	10.0
1984	2,300	22.1
1985	3,000	45.0
1986*	3,800	60.8

* Projection.

SOURCE: National Association For Ambulatory Care.

Table 35. Percent of Revenue from Outpatient Surgery, 1983 and 1986*

Bed Size	1983	1986	Percent Change
Under 50	11.7%	28.7%	146%
50-74	12.4	32.2	160
75-99	14.3	33.0	130
100-149	13.2	34.0	158
150-199	13.4	30.7	128
200-299	13.7	27.6	102
300-399	13.2	26.0	97
Over 400	10.5	20.0	91

* Figures are December 1983 versus May 1986.

SOURCE: "Small Hospitals more than double outpatient cash," *Hospitals* 60(81):18, September 20, 1986.

Home health service expenditures for products and services are estimated to grow from \$9 billion in 1985 to \$16 billion in 1990. Home health care spending increased in recent years at an annual average rate of 20 to 25 percent.²³

Long-Term Care Programs

Long-term care programs provide services to the chronically disabled over an extended period. These health, social, and residential services may be provided in nursing homes (either skilled nursing facilities or intermediate care facilities), at home, or in residential facilities through home health service agencies or other community-based alternatives.

Table 36. Growth of Medicare-Certified Home Health Agencies, 1978-1985

Type of Ownership	1978		1985*	
	Number	Percent of Total	Number	Percent of Total
Visiting nurses associations	494	18.0%	527	9.2%
Combination ⁺	48	1.8	57	1.0
Official health agency	1,278	46.6	1,224	21.5
Rehabilitation facility-based	7	0.2	23	0.4
Hospital-based	319	11.6	1,098	19.3
Skilled nursing facility-based	8	0.3	158	2.8
Proprietary	146	5.3	1,793	31.6
Private nonprofit	394	14.4	793	14.0
Other	48	1.8	9	0.2
Total	2,742	100	5,682	100

* All figures are as of July 1985.

⁺ Visiting nurses associations plus the official governmental home health agency.

SOURCE: *Alternate Site Providers - An Encyclopedia*, HIMA Report 85-9 (Washington, DC: Health Industry Manufacturers Association, 1985)7-5.

Because the likelihood of chronic disability increases with age, a growing over-65 population will expand the need for long-term care services. Such care is costly: national spending on nursing home care grew by 10.6 percent, to \$35 billion, between 1984 and 1985. Rising nursing home expenditures are expected to foster alternatives to this expensive mode of care.

Hospice Programs

Hospice care is an approach to the treatment of terminally ill patients, rather than a site of service delivery. The approach focuses on palliative and supportive care for patients and their families instead of curative treatment.²⁴

The number of hospice programs in this country has grown steadily since 1980, when there were 450. In 1983, there were 1,145; in 1984, about 1,345 hospices were operational or in various stages of development.²⁵ According to National Hospice Organization (NHO) estimates, there were 1,568 programs in 1986. More than 100,000 people were expected to have received

hospice services in 1986, 70 percent of whom were 65 and older. NHO estimates that 85 percent of the American population has geographic access to a hospice program, meaning they are within 25 miles of a program. However, capacity limits actual access to these services.²⁶

Independent organizations run 53 percent of the nation's hospice programs; 23 percent are affiliated with hospitals; 19 percent with home health agencies; and 1 percent with nursing homes.²⁷

COST-CONTAINMENT STRATEGIES OF OTHER PAYERS

DRGs are used by 13 states for their Medicaid programs; two of these states have all-payer DRG systems. Private third-party payers are emphasizing HMOs and PPOs in their cost-containment strategies. HMO enrollment and the number of people eligible for PPO benefits have increased substantially. Alternatives to inpatient care, such as ambulatory surgery and home health services, are also growing rapidly.

Notes to Chapter 5

1. Plans in Kansas; Oklahoma; Arizona; Nebraska; Michigan; Florida; Blue Cross of Northeastern Pennsylvania; Kansas City, Missouri; Mississippi; and Cleveland, Ohio have begun to pay at least some inpatient hospital stays using DRGs. Information on the use of DRGs by Blue Cross and Blue Shield Plans was obtained through telephone interviews conducted by ProPAC.
2. ProPAC staff contacted the following third-party payers: Prudential, Aetna, Hancock, Travelers, Cigna, Metropolitan, and Equitable.
3. AHA Annual Survey data and ProPAC analysis.
4. InterStudy, *National HMO Census, 1985: Annual Report on the Growth of HMOs* (Excelsior, MN: InterStudy, 1986). Please note that some of this growth is attributed to changes in reporting methods used in the InterStudy report. Medicaid-only HMOs and Medicare-only HMOs (social HMOs) were included for the first time in the HMO census for 1985. Also, component or expansion HMOs were counted as separate entities for the first time in this report.
5. Daniel R. Waldo, Katharine R. Levit, and Helen Lazenby, "National Health Expenditures, 1985," *Health Care Financing Review* 8(1):1-21, Fall 1986.
6. U.S. Department of Health and Human Services, Health Care Financing Administration, Office of Prepaid Health Care.
7. Thomas Rice, Greg deLissovoy, Jon Gabel, and Dan Ermann, "The State of PPOs: Results from a National Survey," *Health Affairs* 4(4):25-40, Winter 1985.
8. Rice, deLissovoy, Gabel, and Ermann, *ibid.*
9. American Medical Care and Review Association, personal communication, Bethesda, MD, December 1986.
10. Joyce Jensen and Ned Miklovic, "Eighty-three Percent of Hospitals Reporting Increased Outpatient Use," *Modern Healthcare* 15(22):86-88, October 25, 1985.
11. Health Industry Manufacturers Association, *Alternate Site Providers: An Encyclopedia*, Report No. 85-9, Series No. 4, (Washington, DC: HIMA, 1985) 2.2.
12. "Imaging Centers Continue to Grow," *Hospitals* 60(19):90-105, October 5, 1986.
13. Health Industry Manufacturers Association, *ibid.* (see 10.1-10.2).
14. National Association For Ambulatory Care.
15. Howard J. Andersen, "Ambulatory Care Centers Offer Broader Range of Health Services," *Modern Healthcare* 16(12):142-52, June 6, 1986.
16. "More Hospitals, Companies Enter Field," *Modern Healthcare* 16(19):30, September 12, 1986.
17. Health Industry Manufacturers Association, *ibid.* (see 10.2-10.5) and Andersen, *ibid.*
18. John A. Henderson, "Surgery Center Growth Slows; More Procedures Done," *Modern Healthcare* 16(12):154, June 6, 1986.
19. AHA Annual Survey data and ProPAC analysis. Based on analysis of 5,691 community hospitals.
20. "Small Hospitals More Than Double Outpatient Cash," *Hospitals* 60(18):81, September 20, 1986.
21. Health Industry Manufacturers Association, *ibid.* (see 7.1-7.4).

22. Health Industry Manufacturers Association, *ibid.* (see 7.5).
23. Waldo, Levit, and Lazenby, *ibid.* (see 11).
24. Dorothy N. Moga, "The Hospice Equation," *Business and Health* 2(7):7-11, June 1985.
25. Moga, *ibid.*
26. Ira J. Bates, Ph.D., Director of the National Hospice Census, National Hospice Organization, Arlington, VA, personal communication.
27. Moga, *ibid.*

Chapter 6

Issues Emerging from Changes in the Health Care System

Issues Emerging from Changes in the Health Care System

The Medicare prospective payment system emerged at a time of profound change in the organization, delivery, and financing of health care services for all Americans. In the first five chapters of this report, the Commission has drawn on existing data and information to describe some specific changes in the American health care system that have occurred since the implementation of Medicare's PPS. The Commission recognizes that policy decisions made by Medicare affect other payers. Thus, the Commission expands the discussion in this chapter to additional broad policy issues that are less directly related to PPS.

OVERVIEW OF ISSUES

The impact of PPS on Medicare beneficiaries has been discussed widely during the past few years. Serious concerns have been raised, and the Commission discusses many of them in this report. However, a number of the problems associated with or blamed on PPS are actually not new. Rather, these problems relate much more directly to the historical nature and structure of the Medicare benefit itself than to the new payment system.

In addition to the concerns directly related to welfare of Medicare beneficiaries, the introduction of PPS has precipitated renewed discussion of broad questions in other areas of health care policy. For example, discussions of the methods of financing uncompensated and indigent care, medical education, and clinical research become more critical with payment systems such as PPS. Technology assessment problems and financial incentives that limit the

adoption of new technologies likewise require renewed examination.

PPS, along with other recent reforms in health care financing, has heightened the importance of these issues by changing hospital incentives. These issues are now more easily recognizable under PPS, a system with incentives for efficiently delivering services to specific patients. Prior to PPS, payments were oriented toward the costs of a facility to produce services. Under PPS and other per-case payment systems, payment is made specifically for the care of an individual patient. As a result, the continued ability and willingness of hospitals to cross-subsidize facility-based activities that do not pay their own way is uncertain.

ProPAC examines here a series of issues the Commission believes are critical to address in coming years. A few of these issues relate to short- and long-term changes in the Medicare program. Other issues relate to broader concerns about the changing face of American health care and the appropriate role of the government and the private sector in the research, financing, and delivery of health care in this country in the future.

MEDICARE PROGRAM ISSUES

Benefits, cost sharing, and quality of care continue to be among the key issues related to Medicare's prospective payment system. This section provides a broader context for public dialogue on these matters.

Medicare Benefits and Cost Sharing

Since its beginning, Medicare payment policy and benefits have been defined primarily on the basis of acute care needs, focusing especially on the need for inpatient hospital care and physician services. In the intervening years, the practice of medicine has changed, new technologies have been introduced, and treatment sites have evolved. These changes suggest that it is time to reexamine the partitioning of Medicare into Part A and Part B.

In 1965, when Medicare was enacted, the hospital and the physician's office were the major sites for the delivery of care. At that time, dividing Medicare into Part A and Part B was logical. Since then, new models of care and new models of financing have continued to emerge in the American health care system. Increasingly, the Medicare program has experienced great difficulty in defining benefits and payment for treatment in new sites of care, such as freestanding diagnostic and surgical facilities, hospice programs, and other acute and post-acute care services. The ability of the Medicare program to adjust to changes that better serve an aging population with more chronic diseases and disabilities requires additional attention.

The issue of beneficiary access to and use of alternatives to traditional acute care service has become more important with the implementation of PPS. PPS has contributed to decreasing the rate of growth of inpatient services, and may have allowed financing of these alternative services. Another change in health care delivery associated with PPS implementation is a substantial decrease in the length of time patients remain in the hospital. Equally significant is the decrease in the number of patients admitted to the hospital. Many factors have precipitated this declining use of hospital services. But PPS and the implementation of the PRO program have unquestionably been a major contributor to the phenomenon.

Reduced length of stay of Medicare patients focused attention on the possibility of premature discharge. The availability of post-acute services and the need to plan for post-discharge care have become more important. The judgment about whether a hospital discharge is pre-

mature or merely earlier than prior practice may depend on whether the patient receives necessary post-discharge care.

Earlier discharge and the shift in follow-up services to the outpatient setting also have an unintended consequence on beneficiary financial liability. Congress has recently moderated the increases in the deductible generated by decreased length of stay. But the growth of outpatient testing, procedures, recovery, and rehabilitation services may also increase financial burdens for Medicare beneficiaries, especially those who receive services before or after a shortened inpatient stay.

Over the years as health care costs have increased, the copayment requirements for Medicare beneficiaries have also escalated. The substitution of outpatient services for inpatient services will in some cases reduce Medicare program costs and costs borne by beneficiaries. In other cases, however, the substitution will result in savings for the Medicare program, but increased liability for beneficiaries.

The greatest potential concern for beneficiaries, however, resides in the area of long-term care. Life expectancy has increased for all Americans, many people live beyond 80 or 90 years of age, and chronic conditions are a growing concern. The aging of the population results in a greater need for long-term care. This situation frightens the elderly and is similar to the situation in the 1950s and 1960s, before Medicare, when the elderly were alarmed by the potential need for hospital care they could not afford.

All of these issues related to the structure of the Medicare benefit and copayment requirements become more evident and intensified under PPS. This is because of the increasing availability of complex and costly services outside the hospital, combined with PPS incentives to limit the Medicare hospital stay. Since the implementation of PPS, elderly people who are hospitalized and discharged earlier than in the past are more likely to experience and be concerned about the limitations on their Medicare benefit. They are now confronted with the need to find the alternative sites of care that substi-

tute for inpatient hospital care. Further, they are faced with the necessity of paying for a portion of the care that previously was furnished in the hospital.

Some beneficiaries do not understand the structure of Medicare and believe that their Medicare benefit has been cut under PPS. While there are elements of accuracy in this charge, the changing nature of health care delivery across all population groups is also directly involved. The Commission believes that there is a need for better understanding of what Medicare currently will and will not pay for.

Further, the Commission believes that the time has come for serious debate over the structure of Medicare benefits. The special needs of the elderly must be considered as our society moves away from provision of acute care in the hospital. Housing, transportation, and other social support services are related to health and may be necessary to enable this changing model of service delivery to result in effective and efficient care for the elderly. The debate should include optional approaches to provide the full spectrum of health care and social services needed by the elderly. These include the appropriate mix of acute care, home care, community care, and nursing home care. How the shift to alternative sites of care will affect beneficiaries must be directly addressed, now that PPS has accelerated this phenomenon and made it more evident. The difference between catastrophic acute and catastrophic continuing or long-term care must be clearly articulated.

The debate should be accompanied by careful research and analysis of the financial effects of change on beneficiaries, providers, and the government. In this debate, careful attention must be paid to coverage and financing of each type of service under Medicare and to alternative financing mechanisms. The debate should include an assessment of the share of health care costs borne by beneficiaries and whether this proportion of sharing is appropriate in light of evolving national priorities and other unresolved health care financing issues. As a national dialogue around the potential for including a catastrophic benefit in the Medicare pro-

gram begins, all these issues need to be addressed.

Quality of Care Under Medicare

The changing health care environment and the use of PPS in financing Medicare services have brought new attention to the quality of services received by patients. Much of the frustration about changes in the American health care system and in Medicare has been cast as an issue of quality of care. Here again, the underlying concern is not new. Rather, the need to define, describe, monitor, and measure quality more carefully has been better articulated in light of new PPS incentives.

An unspoken assumption under a generous cost-reimbursement system is that more care is equated with high-quality care. In the past, more care was paid for. The American people have begun to question this assumption. Therefore, better ways to measure and standardize the monitoring of quality health care and its outcomes are needed.

In considering potential quality impacts, monitoring must focus on the different types of care needed and provided. That is, quality of care must be assured in the inpatient hospital setting, in alternative acute care settings, and in community and long-term settings. The patient must receive adequate and appropriate care in each setting. In the past various licensing, accrediting, and quality assurance systems have focused primarily on in-hospital care. With new and evolving patterns and places for care, traditional concepts of quality measurement and monitoring must change. At the same time, existing tools must be refined and new tools developed to measure quality of care and health outcomes in the alternative sites where patients receive services.

The extent to which quality of care has changed under the prospective payment system is unknown. Only the most crude indicators of quality, such as hospital mortality data, are available as a baseline to measure any change that has occurred. The Commission believes that refined tools and more sophisticated data for measuring quality are essential for current

and future use. Only with better inpatient and outpatient information will it be possible to adequately evaluate the impact of PPS on the American health care system.

Recent congressional action requiring a major study of all Medicare quality monitoring activities is an important step in reaching these goals. The Commission hopes that this study, while focused on Medicare, will also produce insights transferable across all patient and provider groups. ProPAC will actively monitor this work, which the Institute of Medicine at the National Academy of Sciences has been requested to undertake. All members of the health care community should likewise monitor and contribute to this effort. The Commission believes that this study has the potential to produce a thoughtful and important consensus, which will form the basis of critical future public policy discussion and actions.

BROAD HEALTH POLICY QUESTIONS

Before PPS, there were financial incentives in the health care system to cross-subsidize from patient care payments to other related hospital activities. Since PPS, those incentives have diminished. The per-case payment method of PPS leads providers to focus on more narrowly defined direct-care activities.

The market-oriented approaches toward health care delivery, which are increasingly popular in this country, share this focus. These approaches place less reliance on a facility's total costs as the basis for calculating payment. This is particularly true in PPS and the capitated and per-case forms of payment. Under such approaches, funding for medical education, clinical research, technological development and diffusion, and uncompensated care no longer receive hidden subsidies from Medicare and other third-party payers. The hospital and other providers are, of course, free to continue to subsidize the activities. But they must do so out of their per-case (or per capita) payments, or with specific payment adjustments, such as the Medicare indirect teaching adjustment.

In this section, the Commission will try to better define some of these problems, which are

no longer concealed under the cloak of cost-reimbursement. In this way, ProPAC hopes to enhance the public policy debate about the appropriate role of government, other third-party payers, and the general public in solving these problems.

Medical Education

The American system of medical education is closely tied to acute care of patients in tertiary care, or teaching, hospitals. These hospitals, which form the foundation of our medical education system, provide some of the best medical care available in the world.

Since the advent of all third-party payment, including Medicare, certain costs of medical education have been included in payment for direct patient care services, primarily in the hospital. Practically speaking, it is difficult—if not impossible—to make accurate distinctions between patient care time and services and educational time and services for a student, resident, or other professional who is teaching or in training. In fact, the very strength of the American medical education process is its close ties to clinical care and research. This may suggest that attempts to make clean distinctions between patient care and education threaten the system.

Patterns of health care delivery are changing dramatically, however. Much of the practice of medicine is shifting outside of the hospital. U.S. health care delivery has moved to a more market-oriented system with strong cost-containment incentives. It was widely agreed when PPS was implemented that it is appropriate to move to a product-oriented pricing system. This system looks at individual patient components of the hospital service package. As a result, there are strong incentives to separate items like medical education from the total cost of care. The medical education costs are no longer concealed. When PPS was designed, an indirect teaching hospital adjustment was included. This was intended to recognize that teaching hospitals treat a more complex mix of patients than other hospitals and are more costly for other reasons as well. The extent to

which the adjustment reflects case complexity remains unquantified.

From the perspective of third-party payers, it is appropriate to ask the following questions about Medical education: how much money, for whom, from whom, for how long, for what types of training, and in what types of settings. Questions related to whether the care delivered is really better than that available elsewhere, and how much society is willing and able to pay for this care, must also be asked.

The answers to these questions will be complex. They should be considered in the context of the appropriate Federal, state, local, and private role in the larger issue of funding for all types of clinical education and the appropriate use of and support for teaching hospitals.

Clinical Research

This country has a magnificent history of achievement in biomedical and clinical research. In the 25 to 30 years after World War II, these achievements were largely financed through significant Federal commitment. Large Federal appropriations, channeled primarily through the National Institutes of Health, have been spent on medical research over the years.

Even with this substantial direct Federal support, the third-party cost-reimbursement structure concealed a significant amount of subsidization for the patient care component of clinical research. This occurred because the cost of caring for patients being treated with new therapies and treatments is frequently higher than the cost of routine care. Furthermore, it is frequently not possible to separate the costs of research from patient care. To maintain national leadership and commitment to research requires funding to offset costs of caring for patients undergoing clinical trials and receiving research-oriented care.

Here again, PPS has identified the need to debate and discuss explicitly the appropriate role of government, the private sector, and third-party payers in funding these activities. It is important to examine concerns that competitive per-case payment systems and vigorous cost accounting will weaken the symbiosis be-

tween research, learning, and caring for patients.

Uncompensated Care

Hospital care for those Americans who are unable to pay has also been subsidized by hospitals, third parties, and other government entities in the past. Our ever-more competitive system, with its strong cost-containment incentives, drives all payers to define more narrowly who and what they will pay for.

Once again, PPS and its per-case payment incentives exacerbate and fuel this trend to eliminate subsidies for uncompensated care. This happens through clear identification of patients and diagnoses for payment purposes. In PPS, this is accomplished through use of the DRGs. Other payers have followed a similar path. Consequently, providers are frequently left in the middle, expected to provide the care to uninsured and underinsured people and somehow absorb the costs. Even if the total level of funding in the system is seen as adequate by some standards, changing incentives may reduce the likelihood of continuing subsidization of uncompensated care.

The number of Americans without insurance has grown dramatically in the last few years. Even though hospitals may appear to be realizing large profits, they may be unwilling or unable to continue to shoulder the ever-growing burden of patients who are unable to pay. Thus, some hospitals, usually public, will increasingly be required to meet the needs of such patients. Currently this phenomenon is seen in changing patterns of patient transfers. Inevitably, some citizens may not receive needed care because of their inability to pay.

There is an increasing need for clearly defined national debate on this problem. When financial incentives are designed to pay only for the care of specific beneficiaries, and the numbers of citizens without insurance grows, the problems of uncompensated care intensify. Proposals dealing with care for uninsured and underinsured individuals have been introduced in the Congress. These and other public and private approaches to the problem of uncompen-

sated care deserve careful and explicit review and discussion.

Technological Innovation and Diffusion

The United States has been a leader in the development, use, and diffusion of new medical technologies. It has been suggested that, here again, cost-reimbursement provided a fertile environment for the application of these innovations. However, this is another case where costs were masked before the advent of PPS and other cost-containment mechanisms. Once an acceptable product, technology, or device was developed and approved, it was paid for at the provider's cost whenever it was used. It is appropriate to consider whether technology development will continue at a socially desirable rate under a more cost-conscious payment system.

Even before PPS, observers had cited a growing need for more analysis of the relative costs, benefits, and value of new technologies. Certainly not all technology was cost-effective, and negative consequences of new technologies have been demonstrated. The appropriateness of using new technologies in certain patients has been especially problematic. It is therefore appropriate that PPS and other cost-containment strategies foster technology assessment and analysis.

Steps have been taken in recent legislation to develop better governmental and private structures and strategies for technology assessment. ProPAC is one of several new organizations with certain responsibilities in this area. The methods, financing, and use of such analyses need to be better developed and debated. Similarly, the longer-term impact of per-case and other cost-containment strategies on technological change needs to be examined.

Hospital Specialization and Access to Care

As a society, we wish to ensure that all citizens have access to needed health care. Achievement of this objective depends, in part, on determining what supply and distribution of services and providers should exist. In the area of hospital services, this requires examining whether an

appropriate number of hospital beds is available and accessible to Medicare beneficiaries and others.

Recent policy decisions have moved the health care system toward a competitive environment. There is need to review whether economic pressures will result in hospital closings, which will eliminate care in some locations. Questions such as how far patients should travel to receive care must be addressed. What level of inefficiency will be tolerated in an effort to ensure access? What is the Federal versus state, local, and private role in this area?

A concomitant problem relates to hospital specialization. Competition for patients may lead hospitals to specialize in particular treatment areas, subsequently limiting access to patients with certain conditions. This may be a good idea to the extent studies show that quality is enhanced when specialization occurs. In addition, concerns have been raised that small facilities with only a few patients may lack adequate resources to furnish high-quality care. On the other hand, there is a need to balance quality of care with access to care.

With adequate, fully accepted measures of quality available and in place, it would be more appropriate to let the medical marketplace make many of these decisions. Unfortunately, as noted previously, acceptable measures of quality of care are still very rudimentary. In geographically remote areas, the problem is further complicated by the need for a better definition of optimal access.

Thus a national debate is appropriate around these questions of geographic access to quality care, including the role and most efficient organization and locations of small hospitals. Additional analysis and review of the positive and negative impact of specialization on both access and quality is required to enhance appropriate public policy decisions.

THE CHANGING FACE OF AMERICAN HEALTH CARE

ProPAC has presented a series of critical health policy problems that have been revealed

or intensified by the Medicare prospective payment system. As the Commission has indicated, it is inappropriate to suggest that PPS alone accounts for these problems. The depth and breadth of the changes under way in the financing and delivery of health care in the United States cannot be underestimated. Alterations in the economic environment and in the design of health benefit programs have occurred rapidly in the past decade. There is no reason to expect a slackening in the pace of this change. Decision making in the public policy setting is further complicated by the pervasive nature of the changes and the speed with which they are occurring.

A More Competitive Environment

The movement to a more competitive, market-oriented system is the major component of the changing face of American health care. Many believe that more competition and less regulation is the optimal approach to cost-containment for both government and private health programs. This approach suggests treating health care more like other products, to be bought and sold in a competitive market place. Under this view, government-inspired regulatory systems are considered to hamper the appropriate give-and-take of the economic marketplace, and thus are to be avoided where possible in favor of a more competitive environment.

The present administration has embraced and encouraged this competitive ethic. The growing number of competitive medical care programs, such as HMOs, PPOs, and other managed forms of care, attest to its current popularity. In addition, many individual hospitals have seen increased competition for patients. The competitive environment has created new economic units and management systems and brought fresh talent into the world of health care delivery. It has also led traditional health care providers and third-party payers to join in diverse arrangements to compete for the financing dollar. Financing and delivery of care are being restructured in many ways. There is reason to believe that some of these new approaches might do a better job of containing costs while providing high-quality care.

An alternative view holds that competition cannot solve the many serious cost, quality, and access problems in U.S. health care delivery, and indeed may be counterproductive. Competition seems to work best for those in stable, financially sound environments. Certainly hospitals with large percentages of insured patients in economically prosperous communities would find competition more attractive than those that serve largely uninsured population groups in economically depressed areas. And many hospitals have no competitors.

The Commission has noted problems that may be exacerbated by competitive approaches. These include problems associated with uncompensated care, medical education, clinical research, and technology development and assessment. In the view of many observers, a more regulatory approach, or a careful mix of competition and regulation, would more likely begin to address these complex problems in U.S. health care delivery.

Payment reforms, including per-case payment and capitation, create strong incentives to control the amount of services provided—and to provide them in the most efficient location or site. Encouraging these incentives is appropriate and can potentially lead to a higher overall level of quality of care for patients. Thus, the Commission appreciates the positive benefits of encouraging market forces in health care. It believes, however, that market forces also have the potential for adverse consequences, which must be examined.

Further Study Needed

In closing, the Commission thinks it is important to identify, define, and further study the broader issues this chapter has addressed, even though they are not new and they have been discussed before in many forums. The incentives and structure of PPS have focused attention on these unresolved issues, reinforcing concern with the potential weaknesses in the nation's health care system. These issues are complex, and the Commission has not sought to provide recommendations for solving these problems at this time. Nevertheless, ProPAC strongly believes these problems require additional research and further debate.

APPENDIXES

Description of the Payment Model

For some of the analyses described in Chapter 3, hospital payments were estimated using a microsimulation model that computes PPS payments to individual hospitals for each year of the transition to national rates. This Appendix describes the data sources used in the model, the hospitals included and excluded from the analysis, how the model works, and the limitations of the model.

DATA SOURCES

The hospital payment model uses data from a number of sources:

- The HCFA Provider File with information on 5833 hospitals supplied by the intermediaries, was the source of the uninflated hospital-specific amount, hospital accounting year, teaching ratio, and special hospital designation (sole community hospitals, rural referral centers, redesignated rural hospitals). The data included in the file are those in effect at the end of December 1984, and were verified by the HCFA Central Office.
- A fiscal year 1985 MEDPAR file of 9.8 million Medicare inpatient hospital stays was used to compute individual hospital case-mix indexes and outlier payments, and to count each hospital's discharges. Stays included in the file were those for discharges occurring during fiscal year 1985 for which a bill was received by June 1986. Case-mix indexes were computed using DRG assignment made using the Grouper rules for fiscal year 1987.
- HCFA files containing Metropolitan Statistical Area (MSA) designation, and the area wage index for fiscal year 1987.
- HCFA files containing the proportion of Medicare days attributed to beneficiaries eligible for Supplemental Security Income and the proportion of total hospital days attributed to Medicaid patients. These proportions are used to designate disproportionate share hospitals and compute the disproportionate share adjustment. These files also include the number of hospital beds, which was used to assign hospitals to bed-size groups.

HOSPITALS INCLUDED IN THE MODEL

Of the 5833 hospitals for which provider-specific data were submitted by the intermediaries, 5434 were included in the analyses. Hospitals were excluded from the data set if information needed to compute payments or assign hospital groups was incomplete. New providers were excluded from the analysis because they do not have a hospital-specific rate. In addition, hospitals from the two waiver states (Maryland and New Jersey) were excluded from the analyses since they are not currently on PPS.

HOW THE MODEL WORKS

The payment amounts model uses the above data, along with information published in the September 3, 1986 and November 24, 1986 *Federal Register* to compute each hospital's PPS payments. These regulations include standardized amounts, DRG weights, outlier thresholds, and area wage index values. Special rules affecting payments to sole community hospitals, rural referral centers, and redesignated rural hospitals are also used to compute payments.

National standardized amounts for fiscal year 1987 were adjusted to estimate payments under fully national rates. The Omnibus Budget Reconciliation Act of 1986, (P.L. 99-509) requires a new method of averaging to be used in calculating the standardized amounts beginning in fiscal year 1988-the first year of fully national payment rates. Under the new method, the standardized amounts will be discharge weighted, so that each hospital's contribution to the average is proportional to its share of Medicare discharges. Currently, the standardized amounts are averaged so that each hospital contributes equally to the average, regardless of the distribution of discharges.

ProPAC analyses have estimated that the effect of the discharge-weighting requirement will be to increase the standardized amount for rural areas by 3.3 percent while decreasing the urban standardized amount by 0.5 percent. The fiscal year 1987 national standardized amounts were adjusted by these factors to estimate the distributional effect of discharge-weighting on payments under fully national rates.

Hospital payments are modeled as if all hospitals had accounting years that begin on October 1st, along with the Federal fiscal year. Although this would be an inappropriate method to use in estimating total Medicare payments, it is useful for looking at the full distributional effects of PPS payments.

Outlier payments are estimated by applying the thresholds for fiscal year 1987 to all the cases in the MEDPAR file. Adjustments for indirect teaching and disproportionate share hospitals are also included in the outlier payments.

LIMITATIONS OF THE ESTIMATES

The model incorporates important simplifying assumptions that limit its accuracy in predicting total PPS payments and might affect the distributional results described here. Volume, length of stay, and case-mix information from fiscal year 1985 were used to estimate payments under fully hospital-specific and fully national rates. These factors are expected to change from year to year, and the pattern of changes might affect the distribution of PPS payments to hos-

pitals. For example, some hospitals may have experienced greater than average case-mix change since fiscal year 1985. Payments to these hospitals would be understated relative to other hospitals.

Moreover, future policy changes could have important effects on the distribution of payments. For example, if a larger reduction was made in the indirect teaching adjustment, payments to teaching hospitals would be reduced. The size of the update factor would not affect the results of analyses presented here, however, since this would be applied equally across all hospitals.

A further limitation of the model is that it probably underestimates payments for cost outlier cases, but this should not affect the results significantly. In fiscal year 1987, a case is a cost outlier if it is not a day outlier, and its covered costs-defined as 66 percent of covered charges-exceed a threshold that is the higher of a \$13,500 or 2 times the Federal payment for that DRG. Payment for these cases is equal to 60 percent of the difference in the threshold and the covered costs.

In the model, covered charges in fiscal year 1985 dollars are being compared to the fiscal year 1987 threshold. Since current charges are most likely higher than they were in fiscal year 1985, the model probably identifies too few cost outlier cases. In addition, for the cases that do exceed the threshold, estimated cost outlier payments are probably too low.

Since payments for cost outlier cases comprise less than 0.5 percent of all PPS payments, the effects of this underestimate on the overall payment simulations are probably not significant. The outlier analyses presented in Chapter 3, however, probably slightly understate the proportion of cost outliers.

Finally, results may be affected by missing discharge information. The fiscal year 1985 MEDPAR file is less complete than the 1984 file was eight months after the end of the fiscal year. To the extent that late-arriving bills are not random, results could be distorted.

Proposals to Limit Health Expenditures by the Elderly

Proposals related to health expenditures by the elderly can be placed in three categories:

- Expansion of Medicare coverage,
- Increased Medicaid funding, and
- Improved insurance coverage for catastrophic illnesses.

EXPANSION OF MEDICARE COVERAGE

An example of the first type of legislative proposal, introduced by Rep. Claude Pepper and Sen. James Sasser, would establish a Medicare Part C benefit to provide protection for the elderly from excessive health spending. Some Part C proposals would make catastrophic insurance a part of Medicare by placing a ceiling on out-of-pocket costs.

The most comprehensive Part C program proposal would provide catastrophic benefits, long term care, routine vision, dental and foot care, and would eliminate current Medicare cost-sharing requirements. Beneficiaries would pay a total premium of about \$800 a year for Medicare coverage. One sponsor's goal for this legislation is to eliminate most gaps in Medicare coverage as well as the need for Medigap insurance.

INCREASED MEDICAID FUNDING

A second type of proposal was introduced by Rep. Henry Waxman. It would allow states, at their option, to expand Medicaid eligibility for low-income elderly and the disabled whose incomes fall between state and federal welfare standards. Under this legislation, states would receive Federal Medicaid matching payments

for their additional expenditures on these beneficiaries.

States could offer full Medicaid coverage to the elderly and disabled with incomes of up to 100 percent of the Federal poverty level. States could also take a more limited approach and pay Medicare cost sharing requirements for beneficiaries with incomes below the Federal poverty line.

COVERAGE OF CATASTROPHIC ILLNESSES

The last type of legislation is designed for the uninsured and underinsured population, not exclusively the elderly. Catastrophic insurance proposals would limit out-of-pocket health care costs. They are aimed at patients with chronic illnesses, such as Alzheimer's disease, that require increasing amounts of nursing and custodial care. Since many chronic illnesses are more prevalent among the elderly, and an estimated 5 million elderly are without Medicare supplemental coverage, these proposals address high out-of-pocket expenses by the elderly.

The Department of Health and Human Services recently released a report to the President regarding coverage for catastrophic illness. The report was developed by the Department, with input from a Public/Private Sector Advisory Committee established by the Secretary. The Committee included representatives from the American Medical Association, the American Association of Retired Persons, the insurance industry, business and elected officials. A summary of the Secretary's recommended approaches and alternatives is presented below.

CATASTROPHIC ILLNESS EXPENSES, DEPARTMENT OF HEALTH AND HUMAN SERVICES REPORT TO THE PRESIDENT

The recommendations included in Secretary Bowen's report address three major parts of the problem of catastrophic illness coverage and expense:

- Acute care catastrophic protection for the elderly;
- Long-term care alternatives; and
- Catastrophic protection for the general population.

Recommendations for Improving Acute Care Catastrophic Expense Protection for the Elderly

Preferred Option: The Secretary recommends that Medicare be restructured to provide catastrophic protection with an actuarially sound additional premium.

This recommendation would place an annual limit on beneficiary out-of-pocket expenses for parts A and B deductible and coinsurance. Part A coinsurance and lifetime limits would be removed and the maximum number of hospital deductibles would be limited to two per year. Part B cost-sharing arrangements would remain unchanged. There would be a \$2,000 annual limit (which corresponds to an annual health care expenditure of over \$10,000).

This package would require an additional premium of \$4.92 per month (\$59.04 a year), that would be added to the part B premium. If a beneficiary chose part B coverage (currently over 95 percent of those eligible buy into part B), they would receive catastrophic protection. The recommendation would require an annual indexing of the premium and the out-of-pocket cap of \$2,000 to ensure budget neutrality and account for health care inflation.

Alternative Option: Medicare should be restructured to provide catastrophic protection through increased cost sharing which may or may not be related to income. This alternative finances catastrophic protection by shifting cov-

erage away from initial health care costs to pay for extremely high annual costs.

Assuming the same benefit package described under the preferred option, the following new coinsurance payments would be required: inpatient hospital coinsurance of \$10 per day for days 2 through 11; skilled nursing facility (SNF) coinsurance of 10 percent of the average daily costs of care, for up to 100 days of care; home health coinsurance of 10 percent of the average visit costs for up to a 100 visits; and an increase in the part B deductible from \$75 to \$170. As with the premium option, the coinsurance amounts would be indexed with medical service cost increases (or decreases).

Recommendations to Improve Long- Term Care Protection Alternatives

(1) The Federal Government should work with the private sector to educate the public about the risks, costs, and financing options available for long term care, as well as the limitations of coverage for such services under Medicare and Medigap supplemental coverage.

(2) In addition, personal savings for long-term care should be encouraged by the Federal government through tax-favored Individual Medical Account (IMA) combined with insurance. Individual Retirement Account (IRA) provisions should be amended to permit tax-free withdrawal of funds for any long-term care expenses.

The IMA recommendation would allow individuals to deposit a certain amount of money (e.g. \$1,000) annually into a savings account which would be restricted for use on long-term care expenses. Interest accumulations would be tax free and withdrawals would not be taxed or penalized if their use was for nursing home care. The principal and 50 percent of the interest could be used for nursing care after age 65, any unused portions would pass to the individual's estate. The remaining 50 percent of the interest would be used to purchase nursing home care or long-term care insurance for the IMA holders after the balance in their accounts had been exhausted.

Although the average stay in a nursing home is 456 days, this figure is somewhat misleading. More than 50 percent of nursing home admissions are for stays of less than three months. Nearly 40 percent are for stay of less than one month. Only 18 percent of nursing home admissions result in stays of 2 years or more, and for this group the average stay is 831 days.

Therefore, the recommendation would establish limits on savings so as to cover up to two years in a nursing home. A person saving \$1,000 annually (indexed for inflation) from 40 to 64 would be entitled to nursing home care at a rate of \$50 daily (indexed) for 25 months. Presently, 82 percent of current nursing home stays are no longer than this and the majority are much shorter.

The portion of the recommendation regarding IRAs provides the opportunity to finance a full range of care that would allow individuals to remain in the least restrictive environment. For instance, a person saving \$1,000 a year (indexed for inflation) from age 40 to 64 would provide coverage of up to 16 months of nursing home care. Alternatively, the dollar value could be used to purchase a wide range of community-based services.

(3) Development of the private market for long-term care insurance should be encouraged in three ways:

- Establish a 50 percent refundable tax credit for long-term care insurance premiums for persons over age 55 (up to an annual maximum of \$100);
- Provide the same favorable treatment for long-term care insurance which is presently afforded life insurance; and

- Remove the 1984 Deficit Reduction Act (DEFRA) barriers to prefunding long-term care benefits provided by employers to retirees.

(4) The Federal government should set an example for private employers and care providers. One alternative would be to offer employee-paid long-term care group insurance as an option under the Federal Employees Health Benefit Program.

Recommendations for Acute Catastrophic Protection for the General Population

(1) All employers who offer health insurance to should offer a catastrophic coverage option.

(2) Full tax deductions should be extended for health insurance to the self-employed and unincorporated businesses, as long as coverage includes catastrophic expenses. The Tax Reform Act, Public Law 99-514, allows the self-employed to deduct 25 percent of their premiums.

(3) The formation of state risk pools should be encouraged to subsidize insurance for those whose medical condition makes it impossible or prohibitively expensive to get catastrophic insurance. Currently, ten states have some form of state risk pools.

(4) State innovation and initiative is recommended in such areas as loan guarantees, high deductible catastrophic health insurance requirements for motor vehicle registration and greater flexibility in the management of state Medicaid programs.

Biographical Sketches of Commissioners

Stuart H. Altman, Chairman

Stuart H. Altman, dean of the Florence Heller Graduate School for Social Policy, Brandeis University, and Sol C. Chaikin Professor of National Health Policy, is an economist whose research interests are primarily in the area of Federal health policy. He has been at Brandeis since 1977. Between 1971 and 1976, Dean Altman was deputy assistant secretary for planning and evaluation/health at the Department of Health, Education and Welfare (now the Department of Health and Human Services). In that position, he was one of the primary contributors to the development and advancement of the National Health Insurance proposal. From 1973 to 1974, he also served as the deputy director for health of the president's Cost of Living Council, where he was responsible for developing the council's program on health care cost-containment. Formerly, Dean Altman taught at Brown University and at the University of California (Berkeley). He is a member of the Institute of Medicine of the National Academy of Sciences and former member of its governing council; on the board of Beth Israel Hospital (Boston); chairman of the board of the Health Policy Center at Brandeis; and president of the National Foundation for Health Services Research. He is a past president of the National Association for Health Services Research and former board member of the Robert Wood Johnson Clinical Scholars Program. Dean Altman also served on the president's Commission for a National Agenda for the Eighties. A member of several editorial boards, he has published extensively on various aspects of health care and public policy. His recent publications include: the Arthur Weissman Memorial Lecture, "Will the Medicare Prospective Payment System Succeed? Technical Adjustments Can Make the Difference"; *Federal Health*

Policy: Problems and Prospects, with Harvey M. Sapolsky; *Ambulatory Care: Problems of Cost and Access*, with Joanna Lion and Judith LaVoor Williams; "Financing Hospital Care: An Uncertain Future," *Journal of Health Administration and Education*, Winter, Vol. 3, No. 1, 1985; "The Impact of Cost Shifting on the Health Care System," in *Health Care Commentary*, Health Insurance Association of America; and "The Growing Physician Surplus: Will It Bankrupt or Benefit the U.S. Health System?" in *In Search of a Public Policy*, edited by Eli Ginzberg and Miriam Ostow. Dean Altman received both an M.S. and a Ph.D. in economics from the University of California (Los Angeles).

Karl D. Bays

Karl D. Bays is chairman of the board and chairman of the executive committee of Baxter Travenol Laboratories, Inc. Before joining Baxter Travenol, Mr. Bays spent 27 years at American Hospital Supply Corporation. He joined American as a sales representative in 1958 and was named president of the distribution division in 1968. In 1970, he was named president of the corporation and elected a director. He was named chief executive officer in 1971 and chairman of the board in 1974. Mr. Bays is a director of the Northern Trust Corporation and The Northern Trust Company, Amoco Corporation, and Delta Air Lines. He is president of the Commercial Club of Chicago. An honorary director of the American Hospital Association, Mr. Bays is also chairman of the McGaw Medical Center of Northwestern University and a life director of Lake Forest (Illinois) Hospital. He is chairman of the Hospital Research and Educational Trust of the American Hospital Association, and a member of the Institute of Medicine of the National Aca-

demy of Sciences. He is a trustee of Northwestern University and a trustee emeritus of Duke University. Mr. Bays has received numerous honors and awards, including the Horatio Alger Award and the University of Southern California School of Business Administration Award for Business Excellence. He has been named outstanding chief executive officer in the hospital supply industry five times by the *Wall Street Transcript* and *Financial World* magazine. Mr. Bays holds a bachelor's degree from Eastern Kentucky University and a master's degree in business administration from Indiana University. He served two years as an officer of the U.S. Marine Corps.

Harold A. Cohen

Harold A. Cohen is the executive director of the Health Services Cost Review Commission of the state of Maryland, and a lecturer in the Department of Health Care Organization of The Johns Hopkins University. He has been with the university since 1972. Before that, he was on the economics faculty of the University of Georgia. Dr. Cohen has been a leader in the development and administration of state-level cost review and rate-setting efforts. He is a member of the American Economic Association, the Southern Economic Association, the Western Economic Association, the American Public Health Association, and the Health Economic Research Organization. Dr. Cohen is the author of numerous professional publications, including "The Financing of Coronary Artery Bypass Surgery," *Circulation*, November 1982; "Case Mix and Regulation," *Topics in Health Care Financing: Diagnostic Related Groups*, Summer 1982; "Evaluating the Cost of Technology," *Health Care in the 1980's*, 1979; "Controlling Medicaid Expenditures by General Price Controls," *The Medicaid Crisis: What States Can Do in the 1980's*, 1982; and "A Model for Resolving Planning Rate Setting Conflict," with Carl J. Schramm, Ph.D., L.D., in *A New Approach to the Economics of Health Care*, 1982. He holds an M.A. and Ph.D. in economics from Cornell University, and received a bachelor's degree from Harpur College (now the State University of New York at Binghamton).

John W. Colloton

John W. Colloton is director of the University of Iowa Hospital and Clinics, and assistant to the university president for statewide health services. He has held his present positions since 1971. Before that, Mr. Colloton held various positions at the University of Iowa Hospitals and Clinics. He has an extensive record of professional activities and is chairman-elect of the Association of American Medical Colleges. Other activities include membership on the Duke University Hospital advisory board; The Johns Hopkins University Center for Hospital Finance and Management; and the external advisory committee, Department of Internal Medicine, University of Michigan; vice chairman of the Blue Cross board of directors; chairman of the Iowa Hospital Association; chairman of the Association of American Medical College's Council of Teaching Hospitals and member of the AAMC executive council; and member of the board of directors of the American Association for Hospital Planning. He was a member of the American Hospital Association/Health Insurance Association joint liaison committee, the AHA/Blue Cross Association joint liaison committee, and the AHA nominating committee; the Department of Health, Education and Welfare's advisory committee on the future of public health service hospitals; and the advisory committee to the Association of Academic Health Centers' study of the impact of Federal policy changes on academic health centers. Mr. Colloton is a Fellow of the American College of Healthcare Executives. He received a B.A. in business administration from Loras College and an M.A. in hospital and health administration from the University of Iowa.

Carolyn K. Davis

Carolyn K. Davis is national and international health care adviser to Ernst & Whinney. She also serves on the board of directors of Beverly Enterprises and SmithKline Beckman. Dr. Davis was administrator of the Health Care Financing Administration (HCFA), Department of Health and Human Services, from 1981 to 1985—the first woman to hold this post since the agency's creation in 1977. Under her tenure, the Medicare prospective payment system was implemented. Dr. Davis was associate vice presi-

dent for academic affairs at the University of Michigan from 1975 to 1981. During that time, she also served on the board of directors of The Johns Hopkins University. Previously, she was dean of the School of Nursing at Michigan, while holding professorships in nursing and education. She also chaired the Baccalaureate Nursing Program at Syracuse University, where she held an associate professorship of nursing. Before moving into the academic community, Dr. Davis was a clinical nurse. She has published numerous articles and research documents dealing with a wide variety of issues in health care. Her other professional activities have included president and board member of the International Health Economics Management Institute, as well as board member of *Nursing Economics* and the National League for Nursing. Dr. Davis received a nursing degree from The Johns Hopkins University and a master's in nursing education and Ph.D. in administration from Syracuse University. She holds four honorary doctorate degrees.

Curtis C. Erickson

Curtis C. Erickson is president and chief executive officer of Great Plains Health Alliance, Inc., a post he has held since 1959. He was that organization's assistant director from 1955 to 1959. Having served the American Hospital Association (AHA) in many capacities, he will become chairman of Regional Advisory Board 6 and a trustee in 1987. He has also chaired AHA's advisory panel to the Center for Small or Rural Hospitals and has been a member of the Council on Management, the Council on Federal Relations, and a representative to the House of Delegates. President of the Lutheran Hospital Association of America from 1974 to 1975, Mr. Erickson was also on the board of trustees from 1972 to 1982. He was president of the Kansas Hospital Association from 1965 to 1966, a member of the board of governors of the Healthcare Stabilization Fund for the Kansas Department of Insurance, and past district governor of Rotary International. From 1983 to 1986, Mr. Erickson served on the Robert Wood Johnson Foundation national advisory board committee for the Rural Hospital Program of Extended Care Services. Mr. Erickson is a member of the Ameri-

can College of Healthcare Executives. From 1951 to 1955, he served in the U.S. Air Force. He received a B.S. in business administration from Fort Hays Kansas State University in 1951.

Yvette F. Francis

Yvette F. Francis has served as the medical director of the Sickie Cell Center for Research since 1978. She was also director of St. Albans Family Medical Center, Queens, New York, from 1970 to 1982. Dr. Francis was director of pediatrics at the George and Robert Carter Community Health Center in Queens from 1968 to 1969, director of medical services at Windham Children's Service in New York City from 1966 to 1968, and director of the Sickie Cell Clinic at Jamaica Hospital in Queens from 1967 to 1978. She was a Hematology Fellow at Bronx-Lebanon Medical Center and at Coney Island Hospital from 1979 to 1981 and, in 1978-1979, took a residency in internal medicine at Brooklyn-Cumberland Medical Center. She had a rotating internship at Michael Reese Hospital in Chicago in 1950-1951. Dr. Francis has had a private practice in pediatrics since 1955. Her memberships include the American Medical Association, the National Medical Association, the American Board of Pediatrics, and the American Medical Women's Association. She is a former member of the Department of Health, Education and Welfare's Advisory Committee on Sickie Cell Disease. Dr. Francis received a B.A. from Hunter College, an M.A. in chemistry from Columbia University, and an M.D. from Yale University.

Sister Sheila Lyne

Sister Sheila Lyne, R.S.M., is president of Mercy Hospital and Medical Center, Chicago, a position she has held since 1977. Before that, she was vice president for human resources and assistant vice president for ambulatory services. Sister Sheila serves as president of the board, Mercy Health Care and Rehabilitation Center, and as a board member of Mercy Center for Health Care Services (Aurora) and Health Network, Inc. She was an assistant professor in the graduate school of the University of Iowa from 1967 to 1970. During the 1960s, she was a nurse

therapist, a supervising clinical specialist, a nursing supervisor and instructor, and a staff nurse. A member of the American College of Hospital Administrators, Sister Sheila is also a trustee-at-large and member of the executive committee of the board of trustees of the Illinois Hospital Association. She is an alternate delegate to the American Hospital Association's House of Delegates and a member of the board of Lakeside Bank. Sister Sheila is a former member of the Chicago Board of Health. She received a B.S. in nursing and an M.S. in psychiatric nursing from Saint Xavier College in Chicago, an M.B.A. from the University of Chicago, and an honorary doctorate degree from Saint Xavier College.

Barbara J. McNeil

Barbara J. McNeil is professor of radiology at Harvard Medical School, Brigham and Women's Hospital, and professor of clinical epidemiology, Harvard Medical School. She is also director of the Center for Cost-Effective Care, Brigham and Women's Hospital, and deputy director for Residency Training, Joint Program in Nuclear Medicine, Harvard Affiliated Hospitals. Dr. McNeil is a member of the Harvard-MIT Division of Health Sciences and Technology. Her professional and advisory activities are extensive. She serves on the board of trustees of the Society for Medical Decision Making. Dr. McNeil is a member of the joint committee of the American College of Radiology, Association of University Radiologists, and the Society of Chairmen of Academic Radiology. She is also a member of the Fleischner Society, the Institute of Medicine of the National Academy of Sciences, and the National Council on Radiation Protection and Measurements. She serves on the American College of Radiology's committees on nuclear radiology and on quality assurance and efficacy. Formerly, Dr. McNeil was on the board of the Association for Health Services Research, the policy council of the Association for Public Policy Analysis and Management, and a member of the National Council on Health Care Technology. She has written five books and more than 150 professional articles and reports. Dr. McNeil has an A.B. in chemistry from Emmanuel College, an M.D. from Harvard Medical School, and a Ph.D. in biological chemistry from Harvard University.

Richard J. Mellman

Richard J. Mellman retired in 1984 as vice president and actuary of the Prudential Insurance Company. He had been responsible since 1976 for coordinating the company's policy on health issues related to developments in the private health insurance industry, the medical delivery system, and the government. Earlier, Mr. Mellman held various assignments in the Actuarial and Comptroller's Departments. From 1950 to 1975, he was in the Group Insurance Department, where he played a major role in the design and development of several new coverages, including major medical, long-term disability, dental, term and paid-up, and personal accident insurance. Mr. Mellman has been active on many committees of associations, including the Health Insurance Association of America, the American Council of Life Insurance, the Society of Actuaries, and the American Academy of Actuaries. He is a past member of the Council on Financing of the American Hospital Association. He has also been a member of several New Jersey study commissions concerned with numerous health issues, including long-term care and hospital corporate structure. Mr. Mellman was also a member of the national advisory committee of the Robert Wood Johnson Foundation Program of Faculty Fellowships in Health Care Finance. The author of several papers on health issues and actuarial subjects, Mr. Mellman was a spokesperson on health policy issues for the insurance industry. He is a Fellow of the Society of Actuaries and a charter member of the American Academy of Actuaries. Mr. Mellman received his B.A. and M.A. in mathematics from Harvard University.

Kathryn M. Mershon

Kathryn M. Mershon is vice president, nursing, at Humana, Inc., a position she has held since 1980. She holds an adjunct assistant professorship of nursing at Spalding University. From 1971 to 1980, Ms. Mershon was associate executive director-nursing at St. Joseph Infirmary (now Humana Hospital Audubon) in Louisville, Kentucky. Before that, she was a clinical nursing specialist at St. Joseph Infirmary, clinical instructor at St. Francis Xavier Hospital School of Nursing, and a staff nurse. She has a distinguished list of professional and community

activities, including board of governors of the Federation of American Health Systems, board member of the National League for Nursing, and editorial review board of *Nursing & Health Care*. She is a former trustee of Spalding University and member of the advisory board of the University of Louisville's School of Nursing. She also served on the Louisville Board of Health and on the board of governors of Louisville General Hospital. She has made numerous public presentations on a variety of nursing-related issues. Her recent publications include: "Some Myths Pertaining to For-Profit Health Care," in *Nursing Economics*, September/October 1986 and "Nurses and the Health Cost Crisis: A Strategic Approach to the Challenge," in *Orthopaedic Nursing*, January/February 1985. Ms. Mershon received a B.S. in nursing from Spalding University and an M.S. in nursing from St. Louis University.

James J. Mongan

James J. Mongan is the executive director of the Truman Medical Center, Kansas City, Missouri. He holds professorships in the School of Medicine and the School of Business and Public Administration at the University of Missouri-Kansas City. From 1979 to 1981, he was the associate director for health and human resources, Domestic Policy Staff, the White House. Dr. Mongan served as deputy assistant secretary for health policy at the Department of Health, Education and Welfare from 1977 to 1979, and was the Secretary's special assistant for National Health Insurance. For seven years before that, he was a professional staff member of the Committee on Finance, U.S. Senate. Dr. Mongan is chairman of the Metropolitan Hospital Section of the American Hospital Association and a member of the House of Delegates. He is on the board of the Council of Teaching Hospitals of the American Association of Medical Colleges and a member of the advisory committee for the Robert Wood Johnson Foundation's Program for Prepaid Managed Health Care. He is also a member of the Missouri Hospital Association Council on Research and Policy Development. Dr. Mongan received his A.B. and M.D. from Stanford University.

John C. Nelson

John C. Nelson is a practicing obstetrician and gynecologist in Salt Lake City, Utah. He has been involved in cost-containment efforts at local and state levels and is active in the American Cancer Society and numerous other medical and civic efforts. A member of the American Medical Association, Dr. Nelson is the delegate from Utah and serves on the work group on evaluation, assessment, and control-Health Policy Agenda for the American People. He is a delegate to the Utah State Medical Association House of Delegates, and serves on the editorial board of the *Utah Medical Bulletin* as well as on the board of the Utah Health Cost Management Foundation. Dr. Nelson is also a member of the board of the Utah Professional Review Organization and the governor's Select Advisory Committee on Child Abuse and Neglect. He is former director of cost-containment for Blue Cross/Blue Shield of Utah. Dr. Nelson took his internship at the Providence Hospital in Portland, Oregon, and a residency with the Department of Obstetrics and Gynecology at the University of Utah. He is board-certified by the American Board of Obstetrics and Gynecology, and a Fellow of the American College of Obstetrics and Gynecology. He received his bachelor's degree in zoology from Utah State University and his M.D. from the Utah College of Medicine.

Steven A. Schroeder

Steven A. Schroeder is the chief of the Division of Internal Medicine and professor of medicine, Department of Medicine at the University of California at San Francisco (UCSF), where he is also a member of the Institute for Health Policy Studies. He is a practicing general internist and an attending physician at UCSF hospitals. Dr. Schroeder joined the UCSF Department of Medicine as an associate professor in 1976. In 1982-1983, he was a visiting professor in the Department of Community Medicine of St. Thomas' Hospital Medical School, London. He was on the faculty of George Washington University Medical Center (GWU) from 1971 to 1976, and served as medical director of the GWU Health Plan from 1972 to 1976. Dr. Schroeder is a diplomate of the American Board of Internal Medicine, a Fellow of the American

College of Physicians, and a member of the Institute of Medicine of the National Academy of Sciences. He serves on the editorial boards of several journals, and is a consultant and adviser to numerous organizations, including the Association of American Medical Colleges, the Department of Health and Human Services, and the Robert Wood Johnson Foundation. He is the past president of the Society for Research in Primary Care Internal Medicine. He is director of the Pew/Rockefeller program, *Health of the Public: An Academic Challenge*. Dr. Schroeder has published extensively on topics such as primary care, medical technology, preventive medicine, clinical iatrogenesis, and physician reimbursement. He received a B.A. from Stanford University and M.D. from Harvard Medical School.

Bert Seidman

Bert Seidman has been the director of the Department of Occupational Safety, Health and Social Security of the AFL-CIO, Washington, D.C., since 1983. From 1962 to 1966, he was the AFL-CIO European economic representative stationed in Paris and then in Geneva. Before that, he served for 14 years as an economist in the research department of the AFL and the AFL-CIO. In 1966, he became director of the AFL-CIO Social Security Department. He was a member of the U.S. labor delegation to the annual conference of the International Labor Organization (ILO) from 1958 to 1976 and, from 1972 to 1975, was a member of the ILO governing body. In 1973 and 1974, he was the U.S. worker delegate to the ILO conference. He has served on numerous committees, including the Federal Advisory Council on Employment Security, the Advisory Council on Health Insurance for the Disabled, the Task Force on Medicaid and Related Programs, the Advisory Council on Social Security, the Federal Hospital Council, the Health Insurance Benefits Advisory Council, the Blue Cross Advisory Committee, and the 1981 White House Conference on Aging (the Advisory Committee and chairman of the Technical Committee on Retirement Income). At present, he is a member of the HMO Industry Council, the Brookings Institution Advisory Panel on Long-Term Care, and the National Advisory Committee to the Robert Wood Johnson Foundation on Community Programs for Afford-

able Health Care. He is on the board of the National Council of Senior Citizens and the National Council on Aging, and is a vice president of the National Consumers League.

Jack K. Shelton

Jack K. Shelton is manager of the Employee Insurance Department of the Ford Motor Company, which he joined in 1956. He is responsible for the financial control and analysis of nearly all employee benefit plans. In this capacity, he participates in union negotiations, relations with insurance carriers, and financial control of company-administered plans. He also reviews changes in wage and benefit programs for foreign subsidiaries. Mr. Shelton is actively involved in a number of local and national health care organizations, serving as a director of the National Fund for Medical Education, a director of Blue Cross and Blue Shield of Michigan, and a member of the Statewide Health Coordinating Council of Michigan. In 1985, he was a member of an Office of Technology Assessment Advisory Panel on Alternative Physician Payments for Medicare and chairman of the Employer Prospective Payment Advisory Commission for the Washington Business Group on Health. He is past chairman of the National Industry Council on HMO Development, the Michigan Health Economics Coalition, the Michigan Hospital Capacity Reduction Corporation, and the Health Alliance Plan (Michigan's largest HMO). Mr. Shelton received his B.S. and M.S. degrees in industrial psychology from Oklahoma State University.

Bruce C. Vladeck

Bruce C. Vladeck is president of the United Hospital Fund of New York. Immediately before joining that organization, Dr. Vladeck was assistant vice president of the Robert Wood Johnson Foundation. From 1979 to 1982, he was assistant commissioner for health planning and resources development of the New Jersey State Department of Health. In that position, he was director of the State Health Planning and Development Agency, where he oversaw the implementation of New Jersey's all payer, DRG-based hospital prospective payment system. Dr. Vladeck taught for four and one-half years at Columbia University, and has

served on the adjunct faculty of Rutgers, Princeton, the College of Medicine and Dentistry of New Jersey, and New York University. He is the author of *Unloving Care: The Nursing Home Tragedy*, and of numerous articles and book chapters on health policy, health care finance, and health politics. He is a member of the New York State Council of Health Care Financing, the Institute of Medicine of the National Acad-

emy of Sciences, and various national advisory committees of the Robert Wood Johnson Foundation. Dr. Vladeck, who is a Fellow of the New York Academy of Medicine, also serves on the board of the Association for Health Services Research. He received his bachelor's degree in government from Harvard College, and his M.A. and Ph.D. in political science from the University of Michigan.



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